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09/847525

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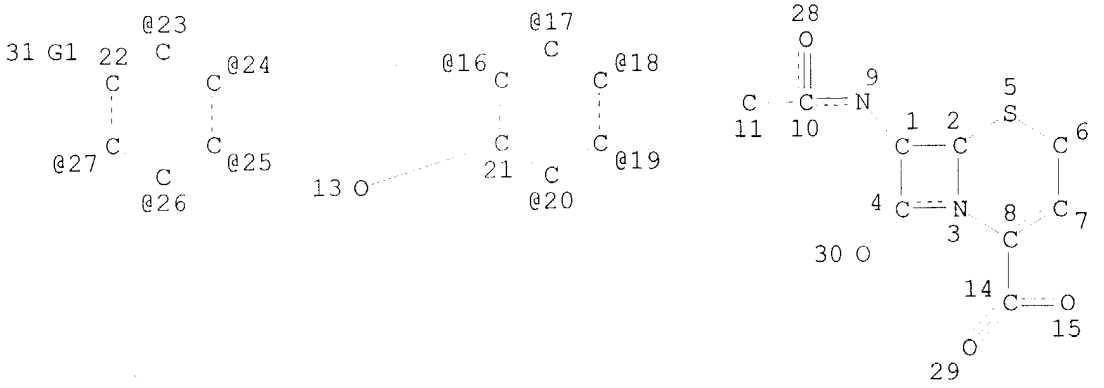

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DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
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STEREO ATTRIBUTES: NONE
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100.0% PROCESSED 8500 ITERATIONS 30 ANSWERS
SEARCH TIME: 00.00.01

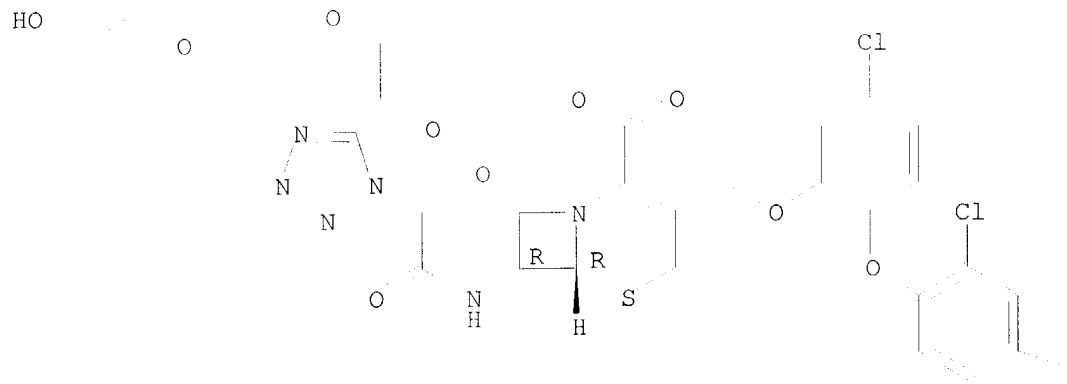
No Useful Hits

L3 ANSWER 1 OF 30 REGISTRY COPYRIGHT 2004 ACS on STN
RN 371915-29-6 REGISTRY
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[5-chloro-2-(2,4-dichlorophenoxy)phenoxy]methyl]-8-oxo-7-[(1H-tetrazol-1-ylacetyl)amino]-, 2-[2-[2-(2-hydroxyethoxy)ethoxy]ethoxy]ethyl ester, (6R,7R)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C31 H33 Cl3 N6 O10 S
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

Absolute stereochemistry.

Searched by: Mary Hale 571-272-2507 REM 1D86

PAGE 1-A



PAGE 1-B

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PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 135:344322 Preparation of beta-lactams for inhibition of the growth of both antibiotic sensitive and antibiotic resistant microorganisms. Chan, Ming Fai; Castillo, Rosario S.; Li, Qing; Doppalapudi, Venkata Ramana; Hixon, Mark Stephen; Lobl, Thomas J. (Newbiotics, Inc., USA). PCT Int. Appl. WO 2001083492 A1 20011108, 109 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-US14133 20010501. PRIORITY: US 2000-PV201642 20000502.

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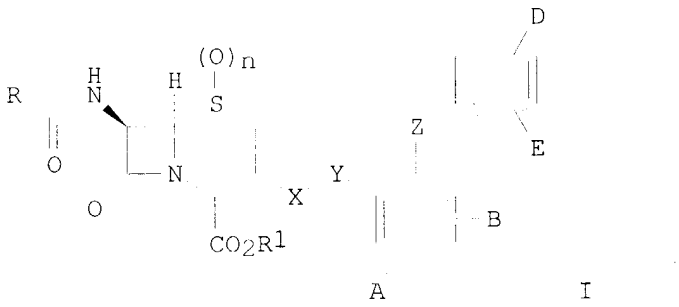
Searched by: Mary Hale 571-272-2507 REM 1D86



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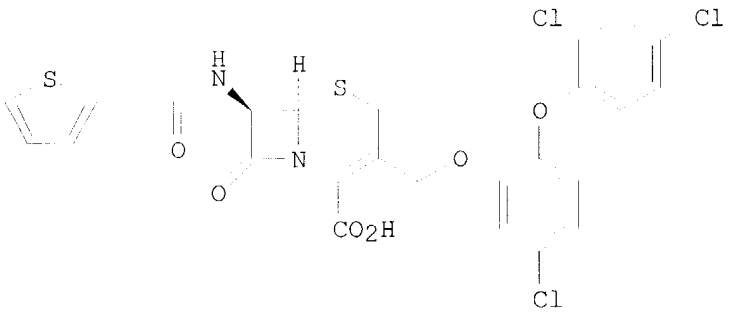


II

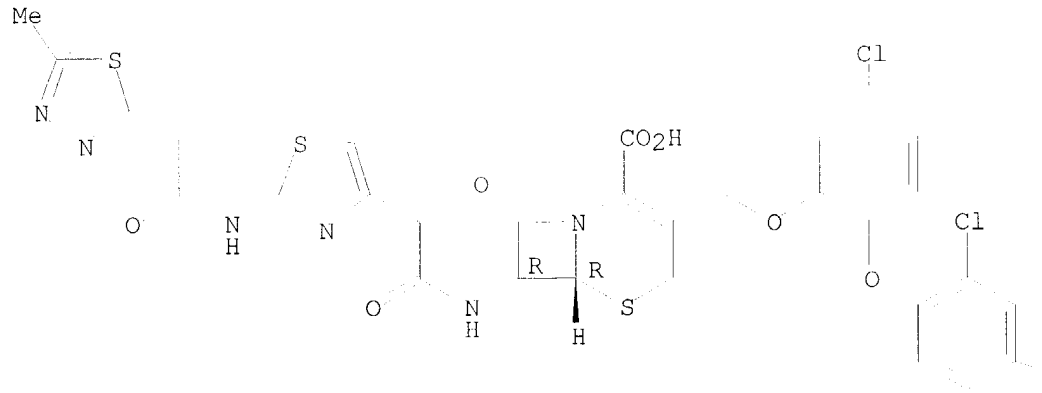
AB The present invention discloses the preparation of beta-lactams [I; n = 0-2; A, B, D, E = same or different = halogen, H, CN, NO2, CF3, C(O)H, NH2, N(R2)n, OR2 (R2 = H, alkyl, alkenyl, alkynyl); X = CH2, cis-CH=CHCH2, trans-CH=CHCH2, CH2OC(O), NHC(O)O, PO3, SO3, SO2, traceless linker; Y = O, S, NR3; R3 = H, alkyl, alkenyl, alkynyl; Z = O, CO, S, α-NR4CO-β, α-N(R4)CO-β, N(R4)n (R4 = H, alkyl, alkenyl, alkynyl); wherein ring α connects Y to Z; Z = benzene or a heterocycle; ring β connects to Z; R = Ph, PhCH2, PHOCH2, heterocycle, aryl, glycoside, etc; R1 = H, Li, Na, sugar, ammonium, NHMe, NMe2, alkylamine, polyethylene glycol], compns. and methods to inhibit the growth of both antibiotic sensitive and antibiotic resistant microorganisms. Thus, II was prepared via a multistep synthetic sequence starting from 7-aminocephalosporanic acid, thiophene acetyl chloride, diphenyldiazomethane and triclosan. The prepared beta-lactam derivs. were tested for bacterial growth inhibition properties [II showed IC50 = 42.4 nM vs E. coli N (β-lactam sensitive strain) and IC50 = 21.0 nM vs E. coli C(Tem31-27) (β-lactam resistant strain)].

L3 ANSWER 2 OF 30 REGISTRY COPYRIGHT 2004 ACS on STN
RN 371915-28-5 REGISTRY
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[5-chloro-2-(2,4-dichlorophenoxy)phenoxy]methyl]-7-[[[2-[[(5-methyl-1,3,4-thiadiazol-2-yl)acetyl]amino]-4-thiazolyl]acetyl]amino]-8-oxo-, (6R,7R)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C30 H23 Cl3 N6 O7 S3
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

Searched by: Mary Hale 571-272-2507 REM 1D86

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

Cl

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1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 135:344322 Preparation of beta-lactams for inhibition of the growth of both antibiotic sensitive and antibiotic resistant microorganisms. Chan, Ming Fai; Castillo, Rosario S.; Li, Qing; Doppalapudi, Venkata Ramana; Hixon, Mark Stephen; Lobl, Thomas J. (Newbiotics, Inc., USA). PCT Int. Appl. WO 2001083492 A1 20011108, 109 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-US14133 20010501. PRIORITY: US 2000-PV201642 20000502.

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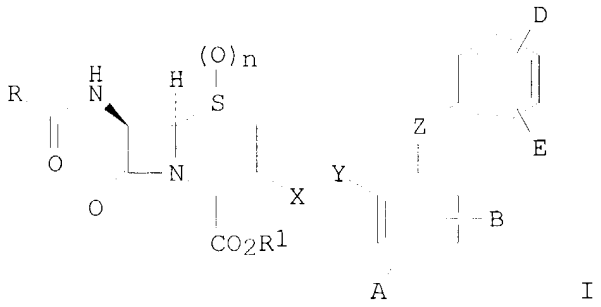
Searched by: Mary Hale 571-272-2507 REM 1D86



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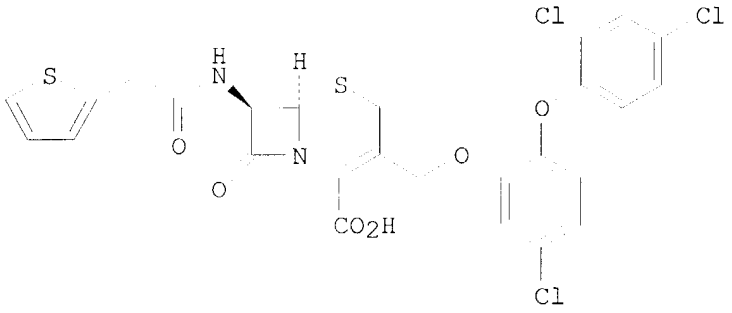


II

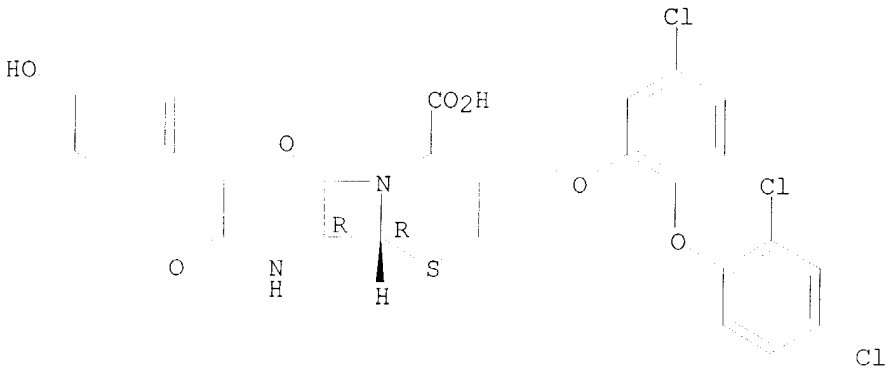
AB The present invention discloses the preparation of beta-lactams [I; n = 0-2; A, B, D, E = same or different = halogen, H, CN, NO2, CF3, C(O)H, NH2, N(R2)n, OR2 (R2 = H, alkyl, alkenyl, alkynyl); X = CH2, cis-CH=CHCH2, trans-CH=CHCH2, CH2OC(O), NHC(O)O, PO3, SO3, SO2, traceless linker; Y = O, S, NR3; R3 = H, alkyl, alkenyl, alkynyl; Z = O, CO, S, α-NR4CO-β, α-N(R4)CO-β, N(R4)n (R4 = H, alkyl, alkenyl, alkynyl); wherein ring α connects Y to Z; Z = benzene or a heterocycle; ring β connects to Z; R = Ph, PhCH2, PHOCH2, heterocycle, aryl, glycoside, etc; R1 = H, Li, Na, sugar, ammonium, NHMe, NMe2, alkylamine, polyethylene glycol], compns. and methods to inhibit the growth of both antibiotic sensitive and antibiotic resistant microorganisms. Thus, II was prepared via a multistep synthetic sequence starting from 7-aminocephalosporanic acid, thiophene acetyl chloride, diphenyldiazomethane and triclosan. The prepared beta-lactam derivs. were tested for bacterial growth inhibition properties [II showed IC50 = 42.4 nM vs E. coli N (β-lactam sensitive strain) and IC50 = 21.0 nM vs E. coli C(Tem31-27) (β-lactam resistant strain)].

L3 ANSWER 3 OF 30 REGISTRY COPYRIGHT 2004 ACS on STN
RN 371915-27-4 REGISTRY
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[5-chloro-2-(2,4-dichlorophenoxy)phenoxy]methyl]-7-[[(4-hydroxyphenyl)acetyl]amino]-8-oxo-, (6R,7R)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C28 H21 Cl3 N2 O7 S
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES

Searched by: Mary Hale 571-272-2507 REM 1D86

(Uses)

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 135:344322 Preparation of beta-lactams for inhibition of the growth of both antibiotic sensitive and antibiotic resistant microorganisms. Chan, Ming Fai; Castillo, Rosario S.; Li, Qing; Doppalapudi, Venkata Ramana; Hixon, Mark Stephen; Lobl, Thomas J. (Newbiotics, Inc., USA). PCT Int. Appl. WO 2001083492 A1 20011108, 109 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-US14133 20010501. PRIORITY: US 2000-PV201642 20000502.

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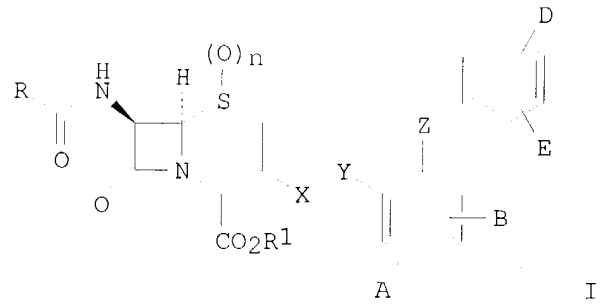

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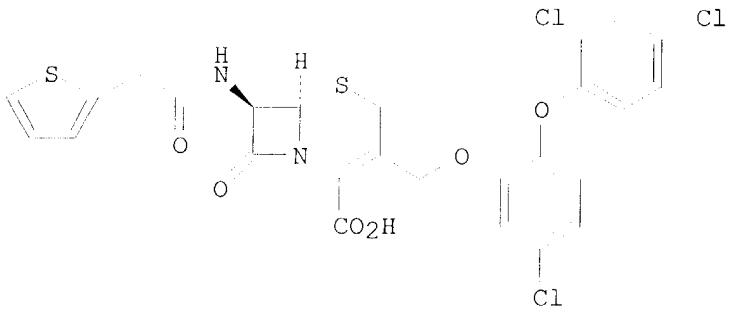

II

AB The present invention discloses the preparation of beta-lactams [I; n = 0-2; A, B, D, E = same or different = halogen, H, CN, NO2, CF3, C(O)H, NH2, N(R2)n, OR2 (R2 = H, alkyl, alkenyl, alkynyl); X = CH2, cis-CH=CHCH2, trans-CH=CHCH2, CH2OC(O), NHC(O)O, PO3, SO3, SO2, traceless linker; Y = O, S, NR3; R3 = H, alkyl, alkenyl, alkynyl; Z = O, CO, S, α-NR4CO-β, α-N(R4)CO-β, N(R4)n (R4 = H, alkyl, alkenyl, alkynyl); wherein ring α connects Y to Z; Z = benzene or a heterocycle; ring β connects to Z; R = Ph, PhCH2, PHOCH2, heterocycle, aryl, glycoside, etc; R1 = H, Li, Na, sugar, ammonium, NHMe, NMe2, alkylamine, polyethylene glycol], compns. and methods to inhibit the growth of both antibiotic sensitive and antibiotic resistant microorganisms. Thus, II was prepared via a multistep synthetic sequence starting from 7-aminocephalosporanic acid, thiophene acetyl chloride, diphenyldiazomethane and triclosan. The prepared beta-lactam derivs. were tested for bacterial growth inhibition properties [II showed IC50 = 42.4 nM vs E. coli N (β-lactam sensitive strain) and IC50 = 21.0 nM vs E. coli C(Tem31-27) (β-lactam resistant strain)].

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RN 371915-26-3 REGISTRY
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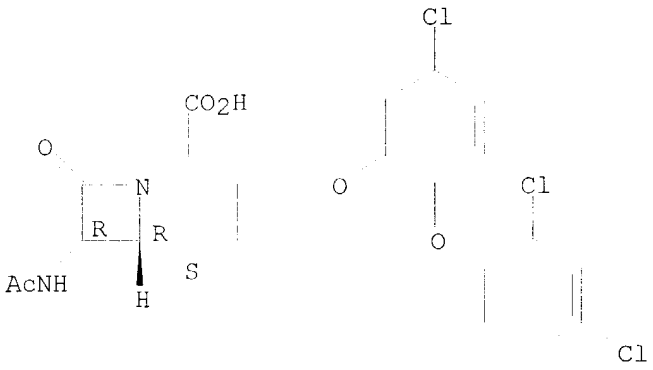
FS STEREOSEARCH
MF C22 H17 Cl3 N2 O6 S
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

Absolute stereochemistry.

Searched by: Mary Hale 571-272-2507 REM 1D86



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1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 135:344322 Preparation of beta-lactams for inhibition of the growth of both antibiotic sensitive and antibiotic resistant microorganisms. Chan, Ming Fai; Castillo, Rosario S.; Li, Qing; Doppalapudi, Venkata Ramana; Hixon, Mark Stephen; Lobl, Thomas J. (Newbiotics, Inc., USA). PCT Int. Appl. WO 2001083492 A1 20011108, 109 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-US14133 20010501. PRIORITY: US 2000-PV201642 20000502.

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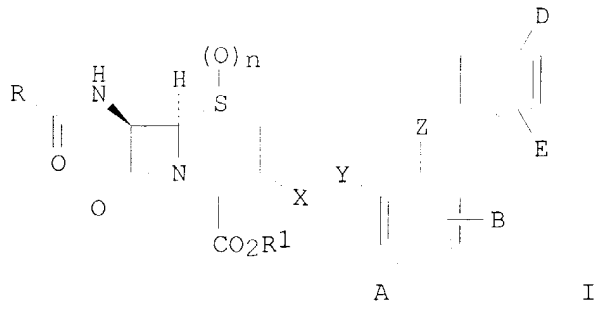
Searched by: Mary Hale 571-272-2507 REM 1D86



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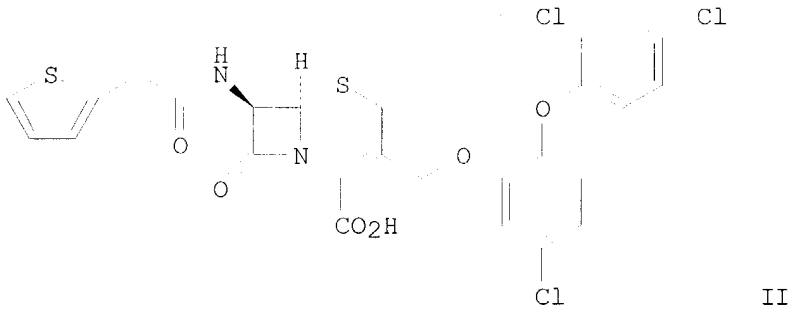

II

AB The present invention discloses the preparation of beta-lactams [I; n = 0-2; A, B, D, E = same or different = halogen, H, CN, NO2, CF3, C(O)H, NH2, N(R2)n, OR2 (R2 = H, alkyl, alkenyl, alkynyl); X = CH2, cis-CH=CHCH2, trans-CH=CHCH2, CH2OC(O), NHC(O)O, PO3, SO3, SO2, traceless linker; Y = O, S, NR3; R3 = H, alkyl, alkenyl, alkynyl; Z = O, CO, S, α-NR4CO-β, α-N(R4)CO-β, N(R4)n (R4 = H, alkyl, alkenyl, alkynyl); wherein ring α connects Y to Z; Z = benzene or a heterocycle; ring β connects to Z; R = Ph, PhCH2, PHOCH2, heterocycle, aryl, glycoside, etc; R1 = H, Li, Na, sugar, ammonium, NHMe, NMe2, alkylamine, polyethylene glycol], compns. and methods to inhibit the growth of both antibiotic sensitive and antibiotic resistant microorganisms. Thus, II was prepared via a multistep synthetic sequence starting from 7-aminocephalosporanic acid, thiophene acetyl chloride, diphenyldiazomethane and triclosan. The prepared beta-lactam derivs. were tested for bacterial growth inhibition properties [II showed IC50 = 42.4 nM vs E. coli N (β-lactam sensitive strain) and IC50 = 21.0 nM vs E. coli C(Tem31-27) (β-lactam resistant strain)].

L3 ANSWER 5 OF 30 REGISTRY COPYRIGHT 2004 ACS on STN
RN 371915-25-2 REGISTRY
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[(2-amino-4-thiazolyl)(methoxyimino)acetyl]amino]-3-[[5-chloro-2-(2,4-dichlorophenoxy)phenoxy]methyl]-8-oxo-, (6R,7R)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C26 H20 Cl3 N5 O7 S2
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

Absolute stereochemistry.

Searched by: Mary Hale 571-272-2507 REM 1D86

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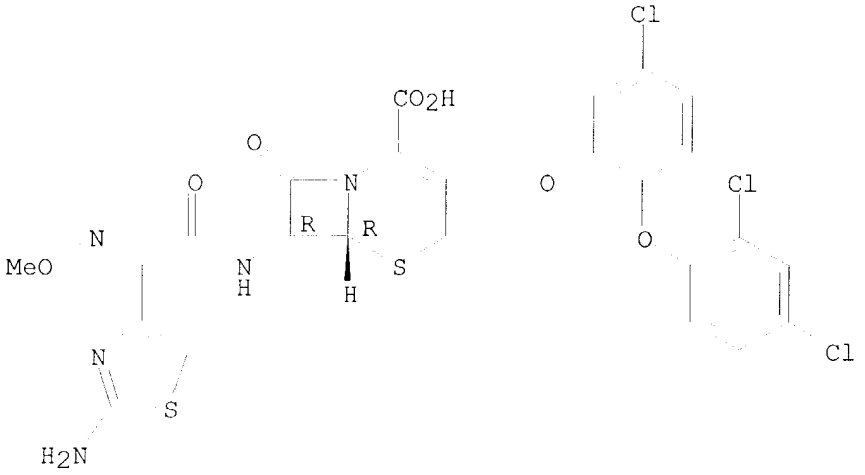

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1 REFERENCES IN FILE CA (1907 TO DATE)
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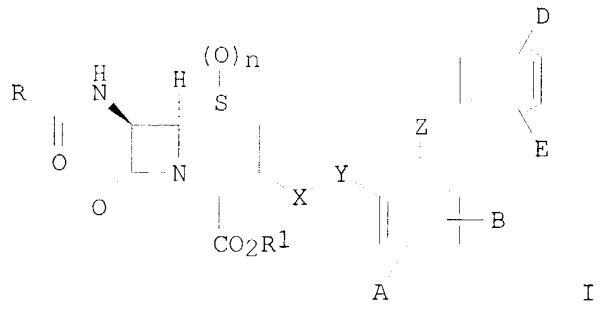
Searched by: Mary Hale 571-272-2507 REM 1D86



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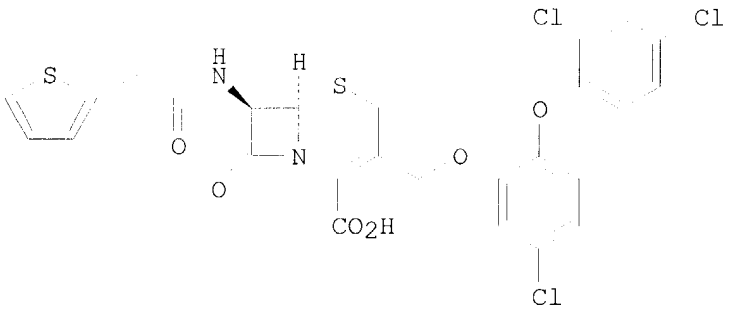


II

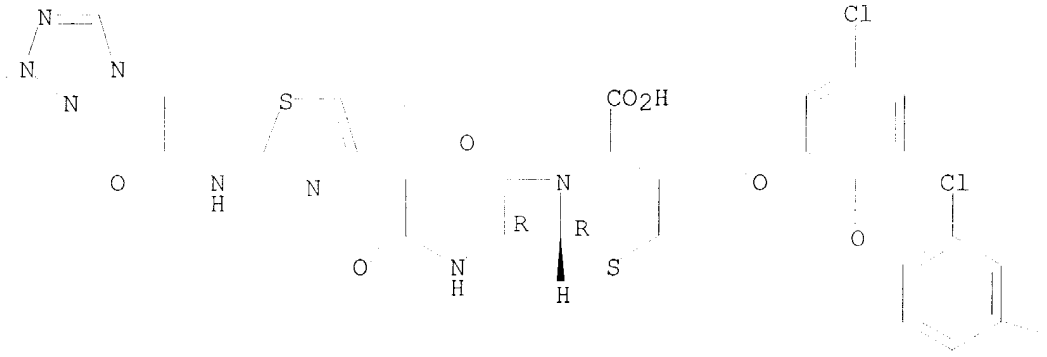
AB The present invention discloses the preparation of beta-lactams [I; n = 0-2; A, B, D, E = same or different = halogen, H, CN, NO2, CF3, C(O)H, NH2, N(R2)n, OR2 (R2 = H, alkyl, alkenyl, alkynyl); X = CH2, cis-CH=CHCH2, trans-CH=CHCH2, CH2OC(O), NHC(O)O, PO3, SO3, SO2, traceless linker; Y = O, S, NR3; R3 = H, alkyl, alkenyl, alkynyl; Z = O, CO, S, α-NR4CO-β, α-N(R4)CO-β, N(R4)n (R4 = H, alkyl, alkenyl, alkynyl); wherein ring α connects Y to Z; Z = benzene or a heterocycle; ring β connects to Z; R = Ph, PhCH2, PHOCH2, heterocycle, aryl, glycoside, etc; R1 = H, Li, Na, sugar, ammonium, NHMe, NMe2, alkylamine, polyethylene glycol], compns. and methods to inhibit the growth of both antibiotic sensitive and antibiotic resistant microorganisms. Thus, II was prepared via a multistep synthetic sequence starting from 7-aminocephalosporanic acid, thiophene acetyl chloride, diphenyldiazomethane and triclosan. The prepared beta-lactam derivs. were tested for bacterial growth inhibition properties [II showed IC50 = 42.4 nM vs E. coli N (β-lactam sensitive strain) and IC50 = 21.0 nM vs E. coli C(Tem31-27) (β-lactam resistant strain)].

L3 ANSWER 6 OF 30 REGISTRY COPYRIGHT 2004 ACS on STN
RN 371915-24-1 REGISTRY
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[5-chloro-2-(2,4-dichlorophenoxy)phenoxy]methyl]-8-oxo-7-[[[2-[(1H-tetrazol-1-ylacetyl)amino]-4-thiazolyl]acetyl]amino]-, (6R,7R)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C28 H21 Cl3 N8 O7 S2
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

Searched by: Mary Hale 571-272-2507 REM 1D86

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 135:344322 Preparation of beta-lactams for inhibition of the growth of both antibiotic sensitive and antibiotic resistant microorganisms. Chan, Ming Fai; Castillo, Rosario S.; Li, Qing; Doppalapudi, Venkata Ramana; Hixon, Mark Stephen; Lobl, Thomas J. (Newbiotics, Inc., USA). PCT Int. Appl. WO 2001083492 A1 20011108, 109 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-US14133 20010501. PRIORITY: US 2000-PV201642 20000502.

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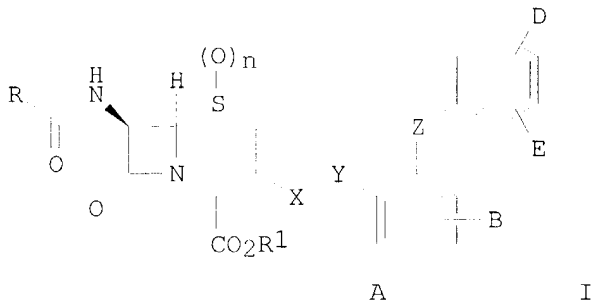
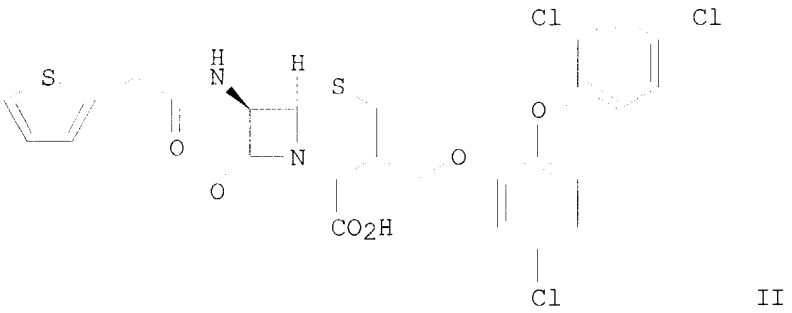
Searched by: Mary Hale 571-272-2507 REM 1D86



A I



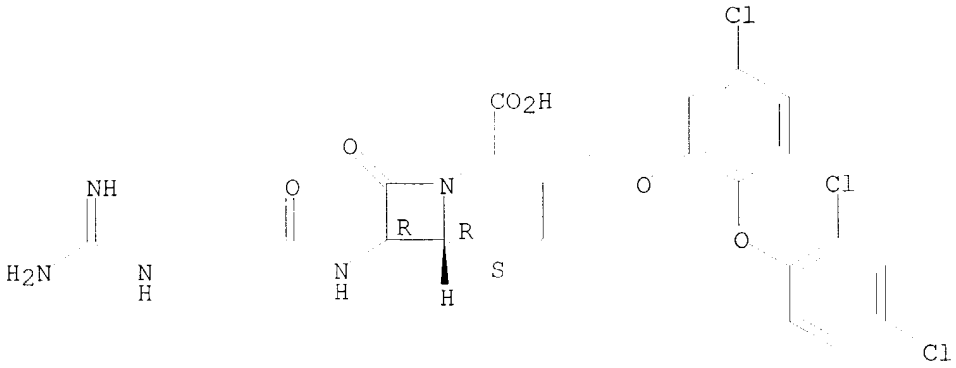
II

AB The present invention discloses the preparation of beta-lactams [I; n = 0-2; A, B, D, E = same or different = halogen, H, CN, NO2, CF3, C(O)H, NH2, N(R2)n, OR2 (R2 = H, alkyl, alkenyl, alkynyl); X = CH2, cis-CH=CHCH2, trans-CH=CHCH2, CH2OC(O), NHC(O)O, PO3, SO3, SO2, traceless linker; Y = O, S, NR3; R3 = H, alkyl, alkenyl, alkynyl; Z = O, CO, S, α-NR4CO-β, α-N(R4)CO-β, N(R4)n (R4 = H, alkyl, alkenyl, alkynyl); wherein ring α connects Y to Z; Z = benzene or a heterocycle; ring β connects to Z; R = Ph, PhCH2, PHOCH2, heterocycle, aryl, glycoside, etc; R1 = H, Li, Na, sugar, ammonium, NHMe, NMe2, alkylamine, polyethylene glycol], compns. and methods to inhibit the growth of both antibiotic sensitive and antibiotic resistant microorganisms. Thus, II was prepared via a multistep synthetic sequence starting from 7-aminocephalosporanic acid, thiophene acetyl chloride, diphenyldiazomethane and triclosan. The prepared beta-lactam derivs. were tested for bacterial growth inhibition properties [II showed IC50 = 42.4 nM vs E. coli N (β-lactam sensitive strain) and IC50 = 21.0 nM vs E. coli C(Tem31-27) (β-lactam resistant strain)].

L3 ANSWER 7 OF 30 REGISTRY COPYRIGHT 2004 ACS on STN
RN 371915-23-0 REGISTRY
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[3-[(aminoiminomethyl)amino]-1-oxopropyl]amino]-3-[[5-chloro-2-(2,4-dichlorophenoxy)phenoxy]methyl]-8-oxo-, (6R,7R)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C24 H22 Cl3 N5 O6 S
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

Absolute stereochemistry.

Searched by: Mary Hale 571-272-2507 REM 1D86



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1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 135:344322 Preparation of beta-lactams for inhibition of the growth of both antibiotic sensitive and antibiotic resistant microorganisms. Chan, Ming Fai; Castillo, Rosario S.; Li, Qing; Doppalapudi, Venkata Ramana; Hixon, Mark Stephen; Lobl, Thomas J. (Newbiotics, Inc., USA). PCT Int. Appl. WO 2001083492 A1 20011108, 109 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-US14133 20010501. PRIORITY: US 2000-PV201642 20000502.

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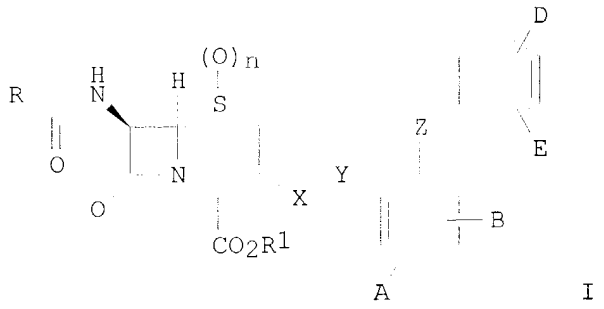
Searched by: Mary Hale 571-272-2507 REM 1D86



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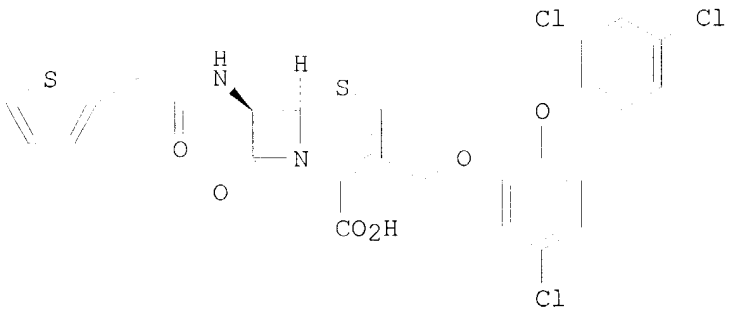


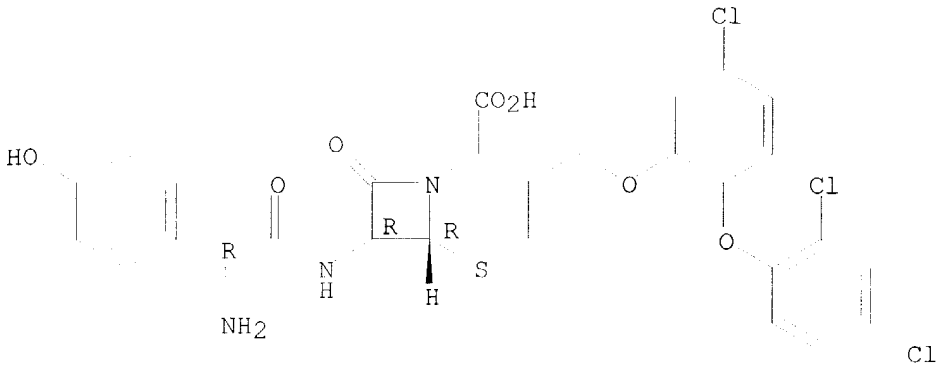
II

AB The present invention discloses the preparation of beta-lactams [I; n = 0-2; A, B, D, E = same or different = halogen, H, CN, NO2, CF3, C(O)H, NH2, N(R2)n, OR2 (R2 = H, alkyl, alkenyl, alkynyl); X = CH2, cis-CH=CHCH2, trans-CH=CHCH2, CH2OC(O), NHC(O)O, PO3, SO3, SO2, traceless linker; Y = O, S, NR3; R3 = H, alkyl, alkenyl, alkynyl; Z = O, CO, S, α-NR4CO-β, α-N(R4)CO-β, N(R4)n (R4 = H, alkyl, alkenyl, alkynyl); wherein ring α connects Y to Z; Z = benzene or a heterocycle; ring β connects to Z; R = Ph, PhCH2, PHOCH2, heterocycle, aryl, glycoside, etc; R1 = H, Li, Na, sugar, ammonium, NHMe, NMe2, alkylamine, polyethylene glycol], compns. and methods to inhibit the growth of both antibiotic sensitive and antibiotic resistant microorganisms. Thus, II was prepared via a multistep synthetic sequence starting from 7-aminocephalosporanic acid, thiophene acetyl chloride, diphenyldiazomethane and triclosan. The prepared beta-lactam derivs. were tested for bacterial growth inhibition properties [II showed IC50 = 42.4 nM vs E. coli N (β-lactam sensitive strain) and IC50 = 21.0 nM vs E. coli C(Tem31-27) (β-lactam resistant strain)].

L3 ANSWER 8 OF 30 REGISTRY COPYRIGHT 2004 ACS on STN
RN 371915-22-9 REGISTRY
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[(2R)-amino(4-hydroxyphenyl)acetyl]amino]-3-[[5-chloro-2-(2,4-dichlorophenoxy)phenoxy]methyl]-8-oxo-, (6R,7R)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C28 H22 Cl3 N3 O7 S
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

Absolute stereochemistry.

Searched by: Mary Hale 571-272-2507 REM 1D86



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 135:344322 Preparation of beta-lactams for inhibition of the growth of both antibiotic sensitive and antibiotic resistant microorganisms. Chan, Ming Fai; Castillo, Rosario S.; Li, Qing; Doppalapudi, Venkata Ramana; Hixon, Mark Stephen; Lobl, Thomas J. (Newbiotics, Inc., USA). PCT Int. Appl. WO 2001083492 A1 20011108, 109 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-US14133 20010501. PRIORITY: US 2000-PV201642 20000502.

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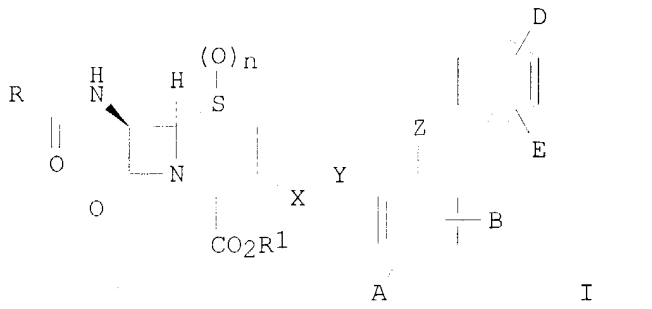

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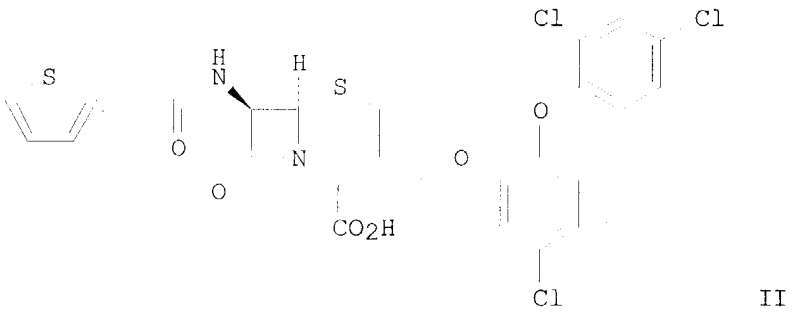


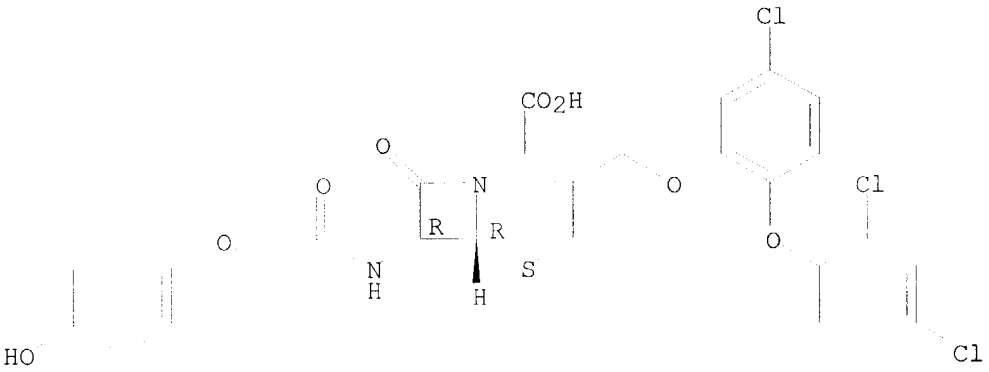
II

AB The present invention discloses the preparation of beta-lactams [I; n = 0-2; A, B, D, E = same or different = halogen, H, CN, NO2, CF3, C(O)H, NH2, N(R2)n, OR2 (R2 = H, alkyl, alkenyl, alkynyl); X = CH2, cis-CH=CHCH2, trans-CH=CHCH2, CH2OC(O), NHC(O)O, PO3, SO3, SO2, traceless linker; Y = O, S, NR3; R3 = H, alkyl, alkenyl, alkynyl; Z = O, CO, S, α-NR4CO-β, α-N(R4)CO-β, N(R4)n (R4 = H, alkyl, alkenyl, alkynyl); wherein ring α connects Y to Z; Z = benzene or a heterocycle; ring β connects to Z; R = Ph, PhCH2, PHOCH2, heterocycle, aryl, glycoside, etc; R1 = H, Li, Na, sugar, ammonium, NHMe, NMe2, alkylamine, polyethylene glycol], compns. and methods to inhibit the growth of both antibiotic sensitive and antibiotic resistant microorganisms. Thus, II was prepared via a multistep synthetic sequence starting from 7-aminocephalosporanic acid, thiophene acetyl chloride, diphenyldiazomethane and triclosan. The prepared beta-lactam derivs. were tested for bacterial growth inhibition properties [II showed IC50 = 42.4 nM vs E. coli N (β-lactam sensitive strain) and IC50 = 21.0 nM vs E. coli C(Tem31-27) (β-lactam resistant strain)].

L3 ANSWER 9 OF 30 REGISTRY COPYRIGHT 2004 ACS on STN
RN 371915-21-8 REGISTRY
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[5-chloro-2-(2,4-dichlorophenoxy)phenoxy]methyl]-7-[[(4-hydroxyphenoxy)acetyl]amino]-8-oxo-, (6R,7R)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C28 H21 Cl3 N2 O8 S
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

Absolute stereochemistry.

Searched by: Mary Hale 571-272-2507 REM 1D86



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 135:344322 Preparation of beta-lactams for inhibition of the growth of both antibiotic sensitive and antibiotic resistant microorganisms. Chan, Ming Fai; Castillo, Rosario S.; Li, Qing; Doppalapudi, Venkata Ramana; Hixon, Mark Stephen; Lobl, Thomas J. (Newbiotics, Inc., USA). PCT Int. Appl. WO 2001083492 A1 20011108, 109 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-US14133 20010501. PRIORITY: US 2000-PV201642 20000502.

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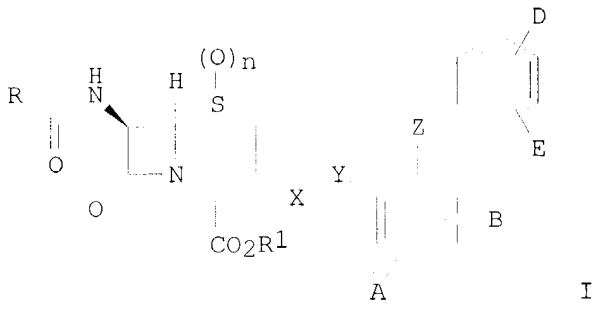

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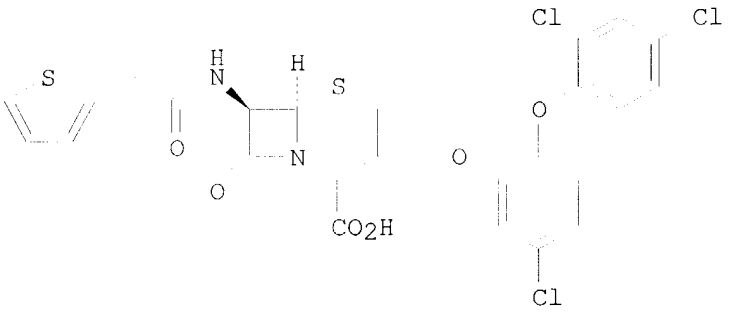


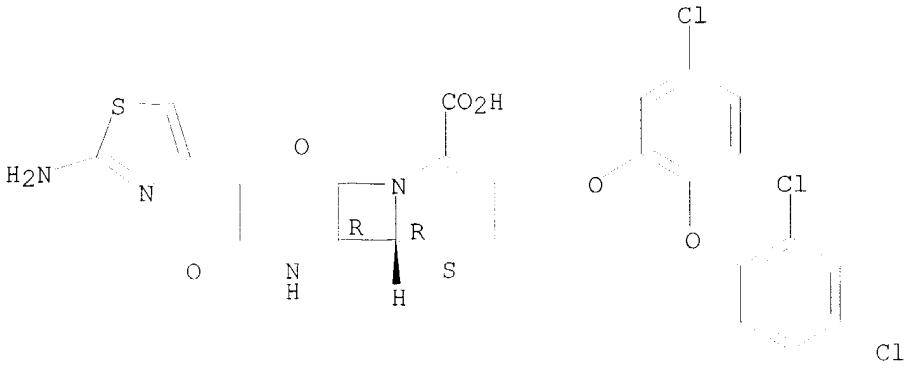
II

AB The present invention discloses the preparation of beta-lactams [I; n = 0-2; A, B, D, E = same or different = halogen, H, CN, NO2, CF3, C(O)H, NH2, N(R2)n, OR2 (R2 = H, alkyl, alkenyl, alkynyl); X = CH2, cis-CH=CHCH2, trans-CH=CHCH2, CH2OC(O), NHC(O)O, PO3, SO3, SO2, traceless linker; Y = O, S, NR3; R3 = H, alkyl, alkenyl, alkynyl; Z = O, CO, S, α-NR4CO-β, α-N(R4)CO-β, N(R4)n (R4 = H, alkyl, alkenyl, alkynyl); wherein ring α connects Y to Z; Z = benzene or a heterocycle; ring β connects to Z; R = Ph, PhCH2, PHOCH2, heterocycle, aryl, glycoside, etc; R1 = H, Li, Na, sugar, ammonium, NHMe, NMe2, alkylamine, polyethylene glycol], compns. and methods to inhibit the growth of both antibiotic sensitive and antibiotic resistant microorganisms. Thus, II was prepared via a multistep synthetic sequence starting from 7-aminocephalosporanic acid, thiophene acetyl chloride, diphenyldiazomethane and triclosan. The prepared beta-lactam derivs. were tested for bacterial growth inhibition properties [II showed IC50 = 42.4 nM vs E. coli N (β-lactam sensitive strain) and IC50 = 21.0 nM vs E. coli C(Tem31-27) (β-lactam resistant strain)].

L3 ANSWER 10 OF 30 REGISTRY COPYRIGHT 2004 ACS on STN
RN 371915-20-7 REGISTRY
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[(2-amino-4-thiazolyl)acetyl]amino]-3-[[5-chloro-2-(2,4-dichlorophenoxy)phenoxy]methyl]-8-oxo-, (6R,7R)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C25 H19 Cl3 N4 O6 S2
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

Absolute stereochemistry.

Searched by: Mary Hale 571-272-2507 REM 1D86



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1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

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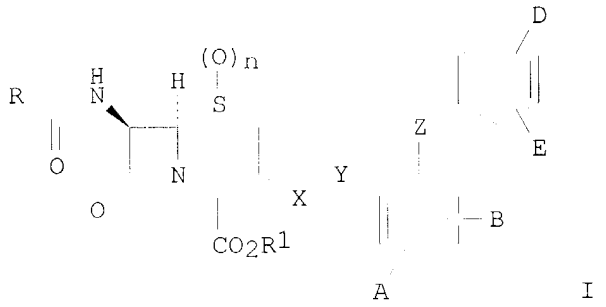

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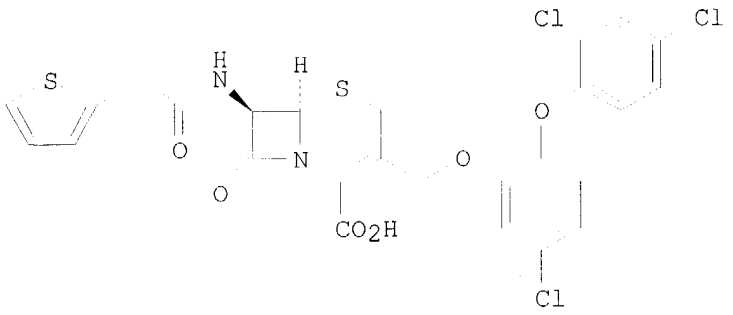

II

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L3 ANSWER 11 OF 30 REGISTRY COPYRIGHT 2004 ACS on STN
RN 371915-19-4 REGISTRY
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[(2S)-aminophenylacetyl]amino]-3-[[5-chloro-2-(2,4-dichlorophenoxy)phenoxy]methyl]-8-oxo-, (6R,7R)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C28 H22 Cl3 N3 O6 S
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LC STN Files: CA, CAPLUS, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

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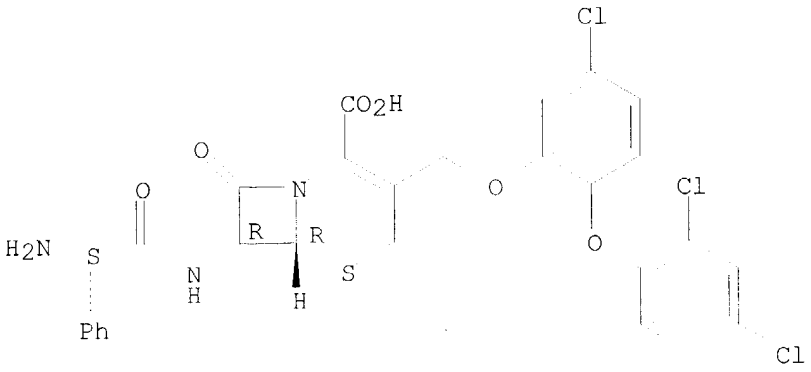
Searched by: Mary Hale 571-272-2507 REM 1D86



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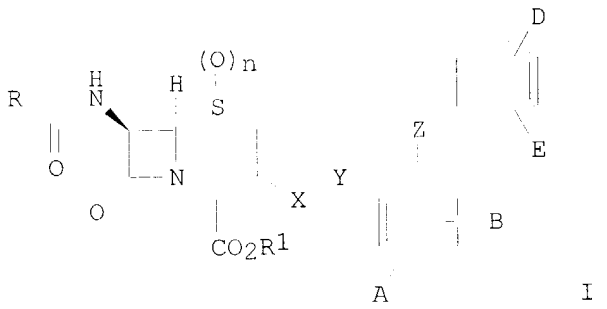
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 135:344322 Preparation of beta-lactams for inhibition of the growth of both antibiotic sensitive and antibiotic resistant microorganisms. Chan, Ming Fai; Castillo, Rosario S.; Li, Qing; Doppalapudi, Venkata Ramana; Hixon, Mark Stephen; Lobl, Thomas J. (Newbiotics, Inc., USA). PCT Int. Appl. WO 2001083492 A1 20011108, 109 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-US14133 20010501. PRIORITY: US 2000-PV201642 20000502.

GI

Searched by: Mary Hale 571-272-2507 REM 1D86



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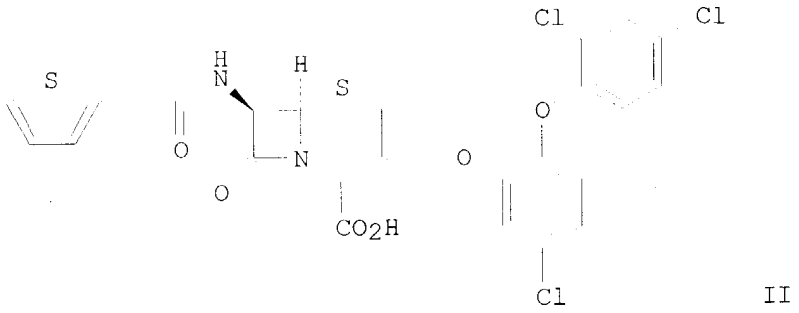


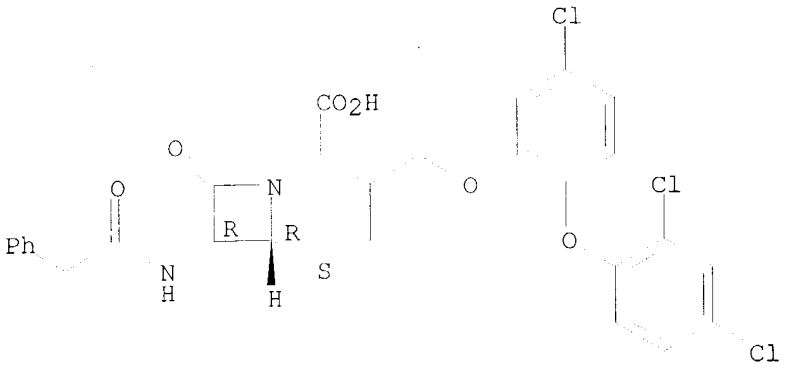
II

AB The present invention discloses the preparation of beta-lactams [I; n = 0-2; A, B, D, E = same or different = halogen, H, CN, NO2, CF3, C(O)H, NH2, N(R2)n, OR2 (R2 = H, alkyl, alkenyl, alkynyl); X = CH2, cis-CH=CHCH2, trans-CH=CHCH2, CH2OC(O), NHC(O)O, PO3, SO3, SO2, traceless linker; Y = O, S, NR3; R3 = H, alkyl, alkenyl, alkynyl; Z = O, CO, S, α-NR4CO-β, α-N(R4)CO-β, N(R4)n (R4 = H, alkyl, alkenyl, alkynyl); wherein ring α connects Y to Z; Z = benzene or a heterocycle; ring β connects to Z; R = Ph, PhCH2, PHOCH2, heterocycle, aryl, glycoside, etc; R1 = H, Li, Na, sugar, ammonium, NHMe, NMe2, alkylamine, polyethylene glycol], compns. and methods to inhibit the growth of both antibiotic sensitive and antibiotic resistant microorganisms. Thus, II was prepared via a multistep synthetic sequence starting from 7-aminocephalosporanic acid, thiophene acetyl chloride, diphenyldiazomethane and triclosan. The prepared beta-lactam derivs. were tested for bacterial growth inhibition properties [II showed IC50 = 42.4 nM vs E. coli N (β-lactam sensitive strain) and IC50 = 21.0 nM vs E. coli C(Tem31-27) (β-lactam resistant strain)].

L3 ANSWER 12 OF 30 REGISTRY COPYRIGHT 2004 ACS on STN
RN 371915-18-3 REGISTRY
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[5-chloro-2-(2,4-dichlorophenoxy)phenoxy]methyl]-8-oxo-7-[(phenylacetyl)amino]-, (6R,7R)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C28 H21 Cl3 N2 O6 S
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

Absolute stereochemistry.

Searched by: Mary Hale 571-272-2507 REM 1D86



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 135:344322 Preparation of beta-lactams for inhibition of the growth of both antibiotic sensitive and antibiotic resistant microorganisms. Chan, Ming Fai; Castillo, Rosario S.; Li, Qing; Doppalapudi, Venkata Ramana; Hixon, Mark Stephen; Lobl, Thomas J. (Newbiotics, Inc., USA). PCT Int. Appl. WO 2001083492 A1 20011108, 109 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-US14133 20010501. PRIORITY: US 2000-PV201642 20000502.

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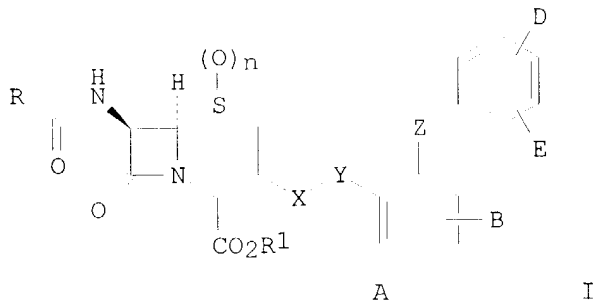
Searched by: Mary Hale 571-272-2507 REM 1D86



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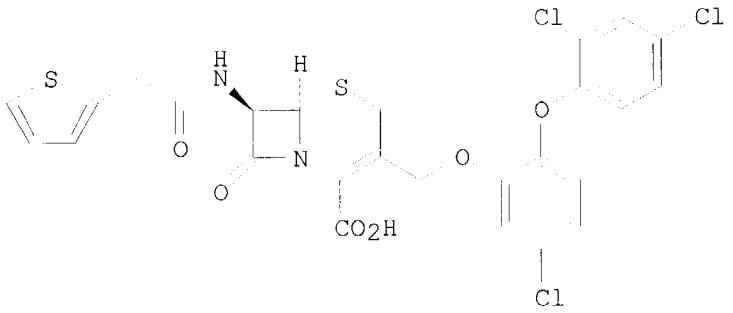


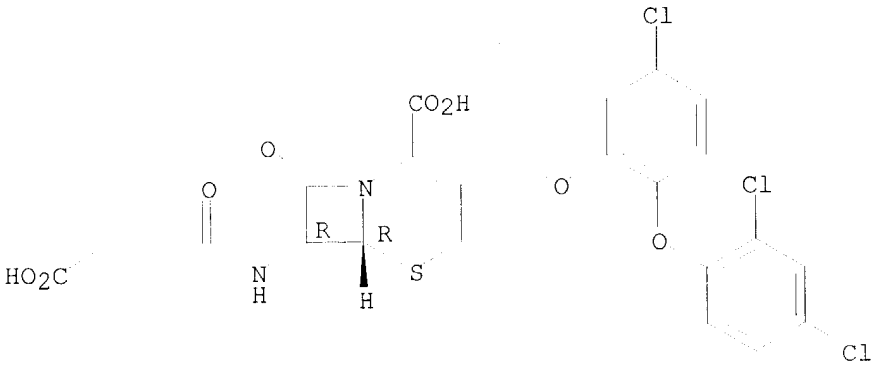
II

AB The present invention discloses the preparation of beta-lactams [I; n = 0-2; A, B, D, E = same or different = halogen, H, CN, NO2, CF3, C(O)H, NH2, N(R2)n, OR2 (R2 = H, alkyl, alkenyl, alkynyl); X = CH2, cis-CH=CHCH2, trans-CH=CHCH2, CH2OC(O), NHC(O)O, PO3, SO3, SO2, traceless linker; Y = O, S, NR3; R3 = H, alkyl, alkenyl, alkynyl; Z = O, CO, S, α-NR4CO-β, α-N(R4)CO-β, N(R4)n (R4 = H, alkyl, alkenyl, alkynyl); wherein ring α connects Y to Z; Z = benzene or a heterocycle; ring β connects to Z; R = Ph, PhCH2, PHOCH2, heterocycle, aryl, glycoside, etc; R1 = H, Li, Na, sugar, ammonium, NHMe, NMe2, alkylamine, polyethylene glycol], compns. and methods to inhibit the growth of both antibiotic sensitive and antibiotic resistant microorganisms. Thus, II was prepared via a multistep synthetic sequence starting from 7-aminocephalosporanic acid, thiophene acetyl chloride, diphenyldiazomethane and triclosan. The prepared beta-lactam derivs. were tested for bacterial growth inhibition properties [II showed IC50 = 42.4 nM vs E. coli N (β-lactam sensitive strain) and IC50 = 21.0 nM vs E. coli C(Tem31-27) (β-lactam resistant strain)].

L3 ANSWER 13 OF 30 REGISTRY COPYRIGHT 2004 ACS on STN
RN 371915-17-2 REGISTRY
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[(3-carboxy-1-oxopropyl)amino]-3-[[5-chloro-2-(2,4-dichlorophenoxy)phenoxy]methyl]-8-oxo-, (6R,7R)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C24 H19 Cl3 N2 O8 S
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); USES (Uses)

Absolute stereochemistry.

Searched by: Mary Hale 571-272-2507 REM 1D86



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1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 135:344322 Preparation of beta-lactams for inhibition of the growth of both antibiotic sensitive and antibiotic resistant microorganisms. Chan, Ming Fai; Castillo, Rosario S.; Li, Qing; Doppalapudi, Venkata Ramana; Hixon, Mark Stephen; Lobl, Thomas J. (Newbiotics, Inc., USA). PCT Int. Appl. WO 2001083492 A1 20011108, 109 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-US14133 20010501. PRIORITY: US 2000-PV201642 20000502.

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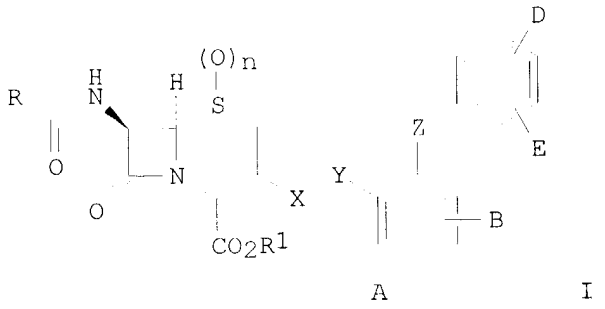
Searched by: Mary Hale 571-272-2507 REM 1D86



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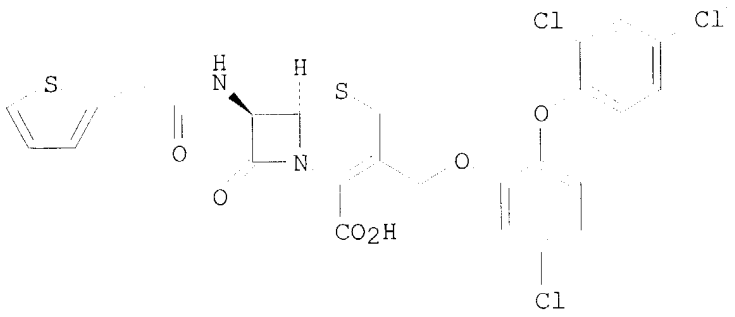


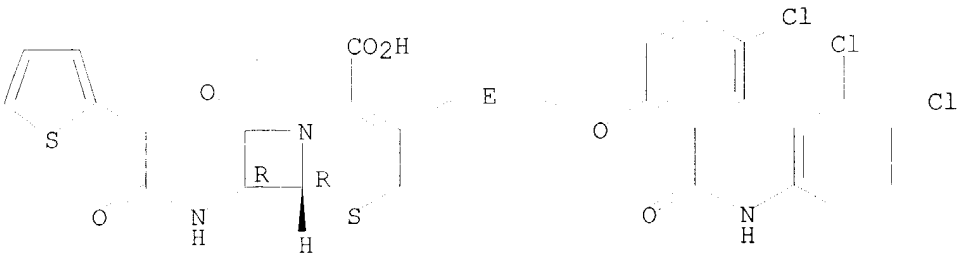
II

AB The present invention discloses the preparation of beta-lactams [I; n = 0-2; A, B, D, E = same or different = halogen, H, CN, NO2, CF3, C(O)H, NH2, N(R2)n, OR2 (R2 = H, alkyl, alkenyl, alkynyl); X = CH2, cis-CH=CHCH2, trans-CH=CHCH2, CH2OC(O), NHC(O)O, PO3, SO3, SO2, traceless linker; Y = O, S, NR3; R3 = H, alkyl, alkenyl, alkynyl; Z = O, CO, S, α-NR4CO-β, α-N(R4)CO-β, N(R4)n (R4 = H, alkyl, alkenyl, alkynyl); wherein ring α connects Y to Z; Z = benzene or a heterocycle; ring β connects to Z; R = Ph, PhCH2, PHOCH2, heterocycle, aryl, glycoside, etc; R1 = H, Li, Na, sugar, ammonium, NHMe, NMe2, alkylamine, polyethylene glycol], compns. and methods to inhibit the growth of both antibiotic sensitive and antibiotic resistant microorganisms. Thus, II was prepared via a multistep synthetic sequence starting from 7-aminocephalosporanic acid, thiophene acetyl chloride, diphenyldiazomethane and triclosan. The prepared beta-lactam derivs. were tested for bacterial growth inhibition properties [II showed IC50 = 42.4 nM vs E. coli N (β-lactam sensitive strain) and IC50 = 21.0 nM vs E. coli C(Tem31-27) (β-lactam resistant strain)].

L3 ANSWER 14 OF 30 REGISTRY COPYRIGHT 2004 ACS on STN
RN 371915-16-1 REGISTRY
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[(1E)-3-[4-chloro-2-[[(3,4-dichlorophenyl)amino]carbonyl]phenoxy]-1-propenyl]-8-oxo-7-[(2-thienylacetyl)amino]-, (6R,7R)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C29 H22 Cl3 N3 O6 S2
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

Searched by: Mary Hale 571-272-2507 REM 1D86

Absolute stereochemistry.
Double bond geometry as shown.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 135:344322 Preparation of beta-lactams for inhibition of the growth of both antibiotic sensitive and antibiotic resistant microorganisms. Chan, Ming Fai; Castillo, Rosario S.; Li, Qing; Doppalapudi, Venkata Ramana; Hixon, Mark Stephen; Lobl, Thomas J. (Newbiotics, Inc., USA). PCT Int. Appl. WO 2001083492 A1 20011108, 109 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-US14133 20010501. PRIORITY: US 2000-PV201642 20000502.

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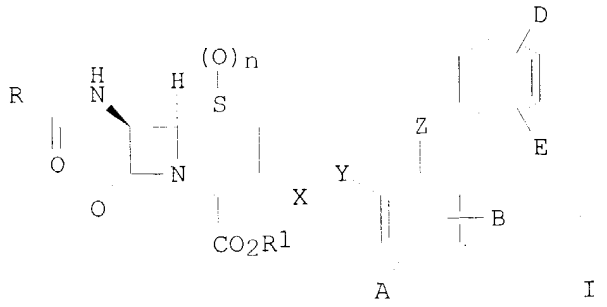

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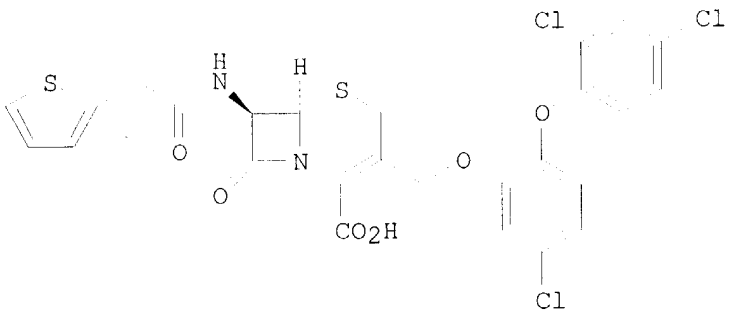
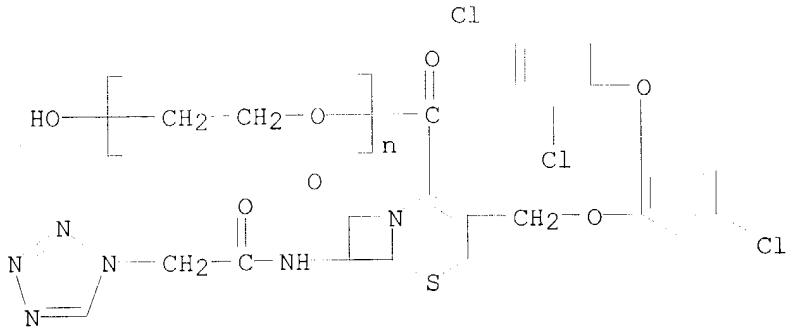


II

AB The present invention discloses the preparation of beta-lactams [I; n = 0-2; A, B, D, E = same or different = halogen, H, CN, NO2, CF3, C(O)H, NH2, N(R2)n, OR2 (R2 = H, alkyl, alkenyl, alkynyl); X = CH2, cis-CH=CHCH2, trans-CH=CHCH2, CH2OC(O), NHC(O)O, PO3, SO3, SO2, traceless linker; Y = O, S, NR3; R3 = H, alkyl, alkenyl, alkynyl; Z = O, CO, S, α-NR4CO-β, α-N(R4)CO-β, N(R4)n (R4 = H, alkyl, alkenyl, alkynyl); wherein ring α connects Y to Z; Z = benzene or a heterocycle; ring β connects to Z; R = Ph, PhCH2, PHOCH2, heterocycle, aryl, glycoside, etc; R1 = H, Li, Na, sugar, ammonium, NHMe, NMe2, alkylamine, polyethylene glycol], compns. and methods to inhibit the growth of both antibiotic sensitive and antibiotic resistant microorganisms. Thus, II was prepared via a multistep synthetic sequence starting from 7-aminocephalosporanic acid, thiophene acetyl chloride, diphenyldiazomethane and triclosan. The prepared beta-lactam derivs. were tested for bacterial growth inhibition properties [II showed IC50 = 42.4 nM vs E. coli N (β-lactam sensitive strain) and IC50 = 21.0 nM vs E. coli C(Tem31-27) (β-lactam resistant strain)].

L3 ANSWER 15 OF 30 REGISTRY COPYRIGHT 2004 ACS on STN
RN 371915-14-9 REGISTRY
CN Poly(oxy-1,2-ethanediyl), α-[[(6R,7R)-3-[[5-chloro-2-(2,4-dichlorophenoxy)phenoxy]methyl]-8-oxo-7-[(1H-tetrazol-1-ylacetyl)amino]-5-thia-1-azabicyclo[4.2.0]oct-2-en-2-yl]carbonyl]-ω-hydroxy- (9CI) (CA INDEX NAME)
MF (C2 H4 O)n C23 H17 Cl3 N6 O6 S
CI PMS
PCT Polyether
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
DT.CA CAplus document type: Patent
RLD.P Roles for non-specific derivatives from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

Searched by: Mary Hale 571-272-2507 REM 1D86



1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 135:344322 Preparation of beta-lactams for inhibition of the growth of both antibiotic sensitive and antibiotic resistant microorganisms. Chan, Ming Fai; Castillo, Rosario S.; Li, Qing; Doppalapudi, Venkata Ramana; Hixon, Mark Stephen; Lobl, Thomas J. (Newbiotics, Inc., USA). PCT Int. Appl. WO 2001083492 A1 20011108, 109 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-US14133 20010501. PRIORITY: US 2000-PV201642 20000502.

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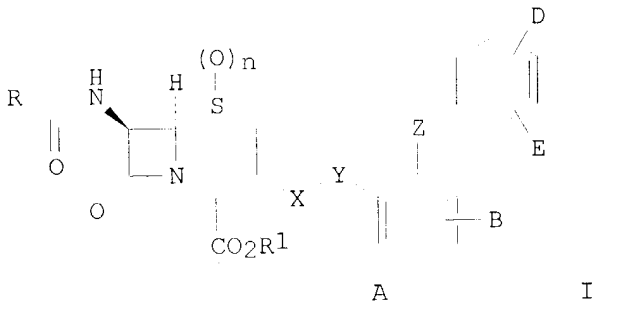

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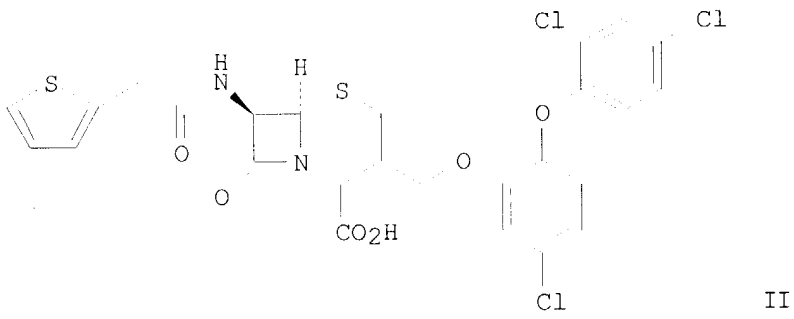


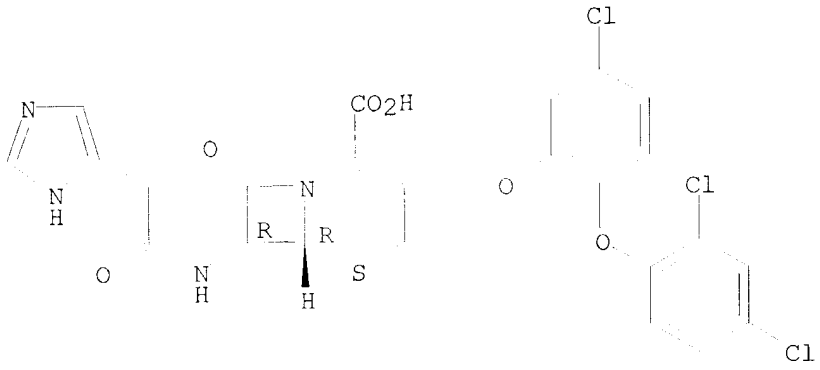
II

AB The present invention discloses the preparation of beta-lactams [I; n = 0-2; A, B, D, E = same or different = halogen, H, CN, NO2, CF3, C(O)H, NH2, N(R2)n, OR2 (R2 = H, alkyl, alkenyl, alkynyl); X = CH2, cis-CH=CHCH2, trans-CH=CHCH2, CH2OC(O), NHC(O)O, PO3, SO3, SO2, traceless linker; Y = O, S, NR3; R3 = H, alkyl, alkenyl, alkynyl; Z = O, CO, S, α-NR4CO-β, α-N(R4)CO-β, N(R4)n (R4 = H, alkyl, alkenyl, alkynyl); wherein ring α connects Y to Z; Z = benzene or a heterocycle; ring β connects to Z; R = Ph, PhCH2, PHOCH2, heterocycle, aryl, glycoside, etc; R1 = H, Li, Na, sugar, ammonium, NHMe, NMe2, alkylamine, polyethylene glycol], compns. and methods to inhibit the growth of both antibiotic sensitive and antibiotic resistant microorganisms. Thus, II was prepared via a multistep synthetic sequence starting from 7-aminocephalosporanic acid, thiophene acetyl chloride, diphenyldiazomethane and triclosan. The prepared beta-lactam derivs. were tested for bacterial growth inhibition properties [II showed IC50 = 42.4 nM vs E. coli N (β-lactam sensitive strain) and IC50 = 21.0 nM vs E. coli C(Tem31-27) (β-lactam resistant strain)].

L3 ANSWER 16 OF 30 REGISTRY COPYRIGHT 2004 ACS on STN
RN 371915-13-8 REGISTRY
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[5-chloro-2-(2,4-dichlorophenoxy)phenoxy]methyl]-7-[(1H-imidazol-4-ylacetyl)amino]-8-oxo-, (6R,7R)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C25 H19 Cl3 N4 O6 S
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

Absolute stereochemistry.

Searched by: Mary Hale 571-272-2507 REM 1D86



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1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 135:344322 Preparation of beta-lactams for inhibition of the growth of both antibiotic sensitive and antibiotic resistant microorganisms. Chan, Ming Fai; Castillo, Rosario S.; Li, Qing; Doppalapudi, Venkata Ramana; Hixon, Mark Stephen; Lobl, Thomas J. (Newbiotics, Inc., USA). PCT Int. Appl. WO 2001083492 A1 20011108, 109 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-US14133 20010501. PRIORITY: US 2000-PV201642 20000502.

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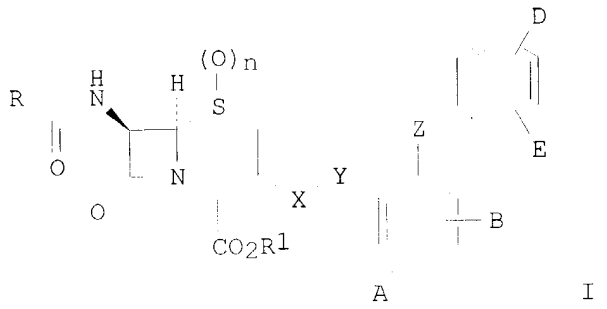
Searched by: Mary Hale 571-272-2507 REM 1D86



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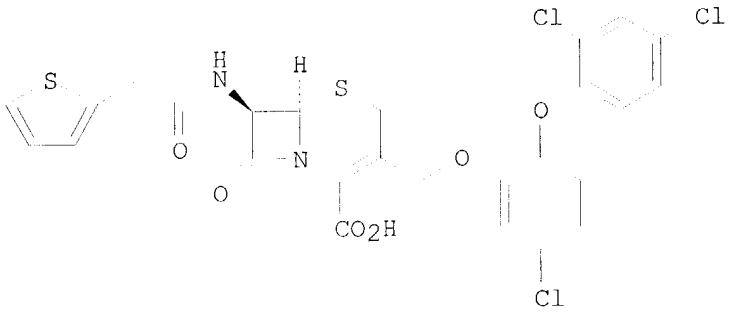


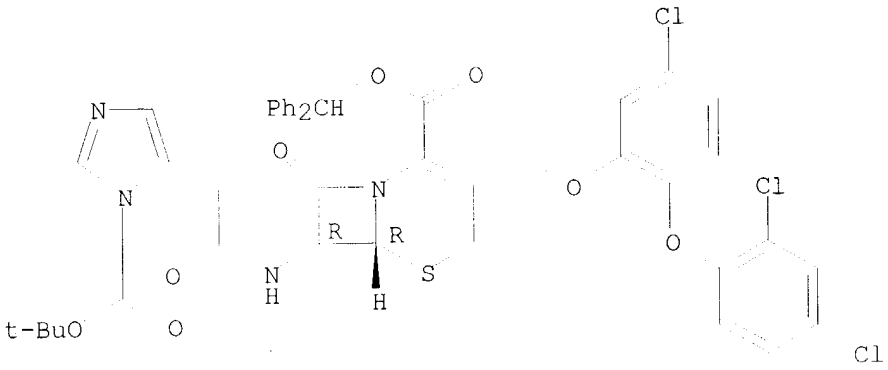
Cl Cl Cl II

AB The present invention discloses the preparation of beta-lactams [I; n = 0-2; A, B, D, E = same or different = halogen, H, CN, NO2, CF3, C(O)H, NH2, N(R2)n, OR2 (R2 = H, alkyl, alkenyl, alkynyl); X = CH2, cis-CH=CHCH2, trans-CH=CHCH2, CH2OC(O), NHC(O)O, PO3, SO3, SO2, traceless linker; Y = O, S, NR3; R3 = H, alkyl, alkenyl, alkynyl; Z = O, CO, S, α-NR4CO-β, α-N(R4)CO-β, N(R4)n (R4 = H, alkyl, alkenyl, alkynyl); wherein ring α connects Y to Z; Z = benzene or a heterocycle; ring β connects to Z; R = Ph, PhCH2, PHOCH2, heterocycle, aryl, glycoside, etc; R1 = H, Li, Na, sugar, ammonium, NHMe, NMe2, alkylamine, polyethylene glycol], compns. and methods to inhibit the growth of both antibiotic sensitive and antibiotic resistant microorganisms. Thus, II was prepared via a multistep synthetic sequence starting from 7-aminocephalosporanic acid, thiophene acetyl chloride, diphenyldiazomethane and triclosan. The prepared beta-lactam derivs. were tested for bacterial growth inhibition properties [II showed IC50 = 42.4 nM vs E. coli N (β-lactam sensitive strain) and IC50 = 21.0 nM vs E. coli C(Tem31-27) (β-lactam resistant strain)].

L3 ANSWER 17 OF 30 REGISTRY COPYRIGHT 2004 ACS on STN
RN 371915-12-7 REGISTRY
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[5-chloro-2-(2,4-dichlorophenoxy)phenoxy]methyl]-7-[[[1-[(1,1-dimethylethoxy)carbonyl]-1H-imidazol-5-yl]acetyl]amino]-8-oxo-, diphenylmethyl ester, (6R,7R)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C43 H37 Cl3 N4 O8 S
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

Searched by: Mary Hale 571-272-2507 REM 1D86

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 135:344322 Preparation of beta-lactams for inhibition of the growth of both antibiotic sensitive and antibiotic resistant microorganisms. Chan, Ming Fai; Castillo, Rosario S.; Li, Qing; Doppalapudi, Venkata Ramana; Hixon, Mark Stephen; Lobl, Thomas J. (Newbiotics, Inc., USA). PCT Int. Appl. WO 2001083492 A1 20011108, 109 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-US14133 20010501. PRIORITY: US 2000-PV201642 20000502.

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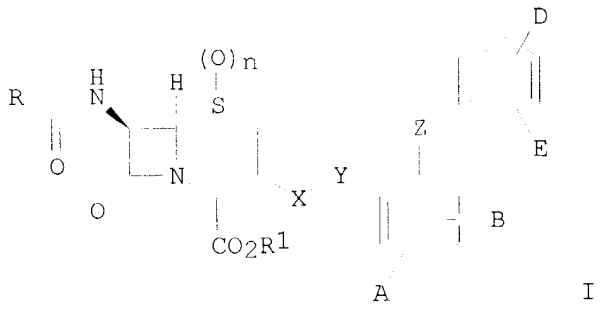
Searched by: Mary Hale 571-272-2507 REM 1D86



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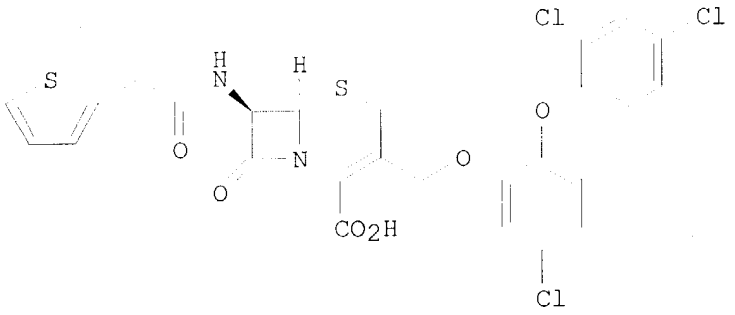


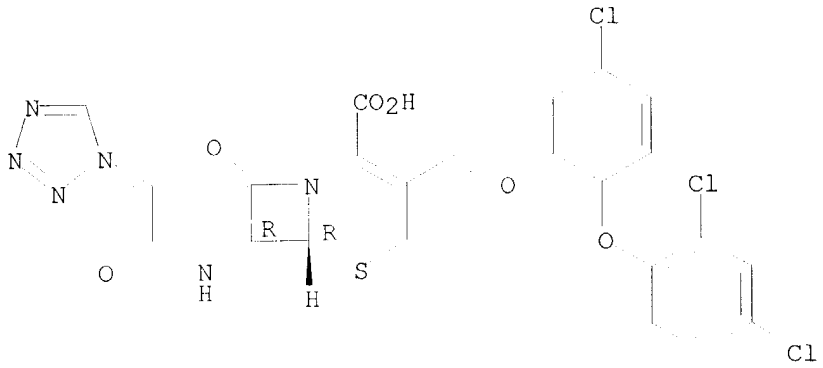
II

AB The present invention discloses the preparation of beta-lactams [I; n = 0-2; A, B, D, E = same or different = halogen, H, CN, NO2, CF3, C(O)H, NH2, N(R2)n, OR2 (R2 = H, alkyl, alkenyl, alkynyl); X = CH2, cis-CH=CHCH2, trans-CH=CHCH2, CH2OC(O), NHC(O)O, PO3, SO3, SO2, traceless linker; Y = O, S, NR3; R3 = H, alkyl, alkenyl, alkynyl; Z = O, CO, S, α-NR4CO-β, α-N(R4)CO-β, N(R4)n (R4 = H, alkyl, alkenyl, alkynyl); wherein ring α connects Y to Z; Z = benzene or a heterocycle; ring β connects to Z; R = Ph, PhCH2, PHOCH2, heterocycle, aryl, glycoside, etc; R1 = H, Li, Na, sugar, ammonium, NHMe, NMe2, alkylamine, polyethylene glycol], compns. and methods to inhibit the growth of both antibiotic sensitive and antibiotic resistant microorganisms. Thus, II was prepared via a multistep synthetic sequence starting from 7-aminocephalosporanic acid, thiophene acetyl chloride, diphenyldiazomethane and triclosan. The prepared beta-lactam derivs. were tested for bacterial growth inhibition properties [II showed IC50 = 42.4 nM vs E. coli N (β-lactam sensitive strain) and IC50 = 21.0 nM vs E. coli C(Tem31-27) (β-lactam resistant strain)].

L3 ANSWER 18 OF 30 REGISTRY COPYRIGHT 2004 ACS on STN
RN 371915-11-6 REGISTRY
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[5-chloro-2-(2,4-dichlorophenoxy)phenoxy]methyl]-8-oxo-7-[(1H-tetrazol-1-ylacetyl)amino]-, (6R,7R)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C23 H17 Cl3 N6 O6 S
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: PREP (Preparation); RACT (Reactant or reagent)

Absolute stereochemistry.

Searched by: Mary Hale 571-272-2507 REM 1D86



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1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

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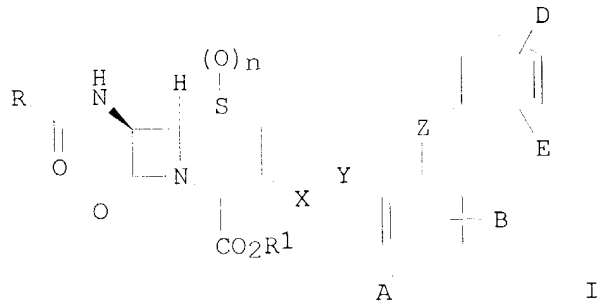
Searched by: Mary Hale 571-272-2507 REM 1D86



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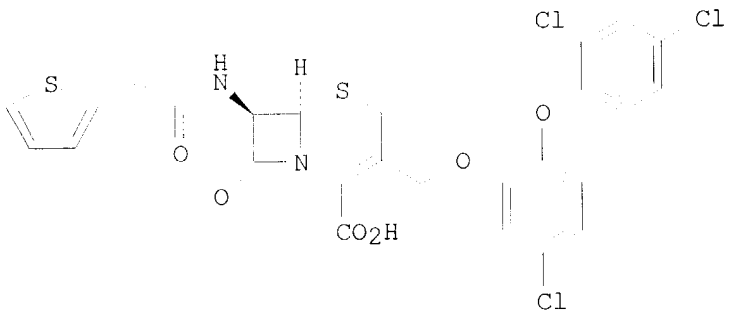

II

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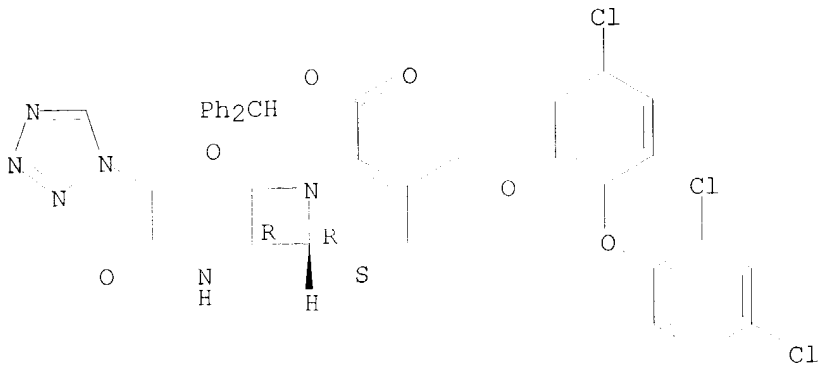
L3 ANSWER 19 OF 30 REGISTRY COPYRIGHT 2004 ACS on STN
RN 371915-10-5 REGISTRY
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[5-chloro-2-(2,4-dichlorophenoxy)phenoxy]methyl]-8-oxo-7-[(1H-tetrazol-1-ylacetyl)amino]-, diphenylmethyl ester, (6R,7R)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C36 H27 Cl3 N6 O6 S
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

Absolute stereochemistry.

Searched by: Mary Hale 571-272-2507 REM 1D86



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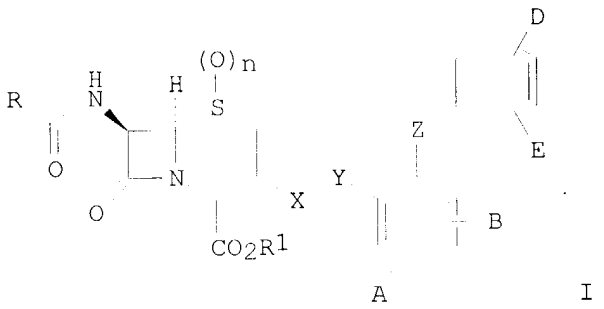

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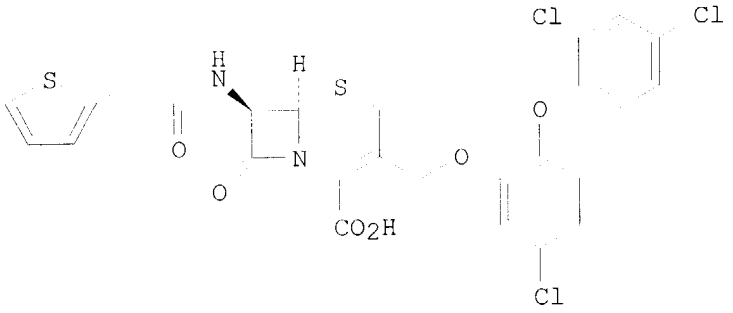

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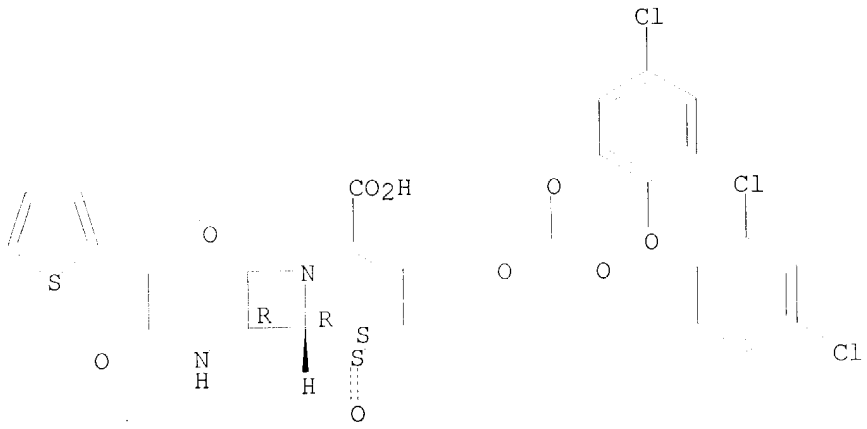
L3 ANSWER 20 OF 30 REGISTRY COPYRIGHT 2004 ACS on STN
RN 371915-03-6 REGISTRY
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[[[5-chloro-2-(2,4-dichlorophenoxy)phenoxy]carbonyl]oxy]methyl]-8-oxo-7-[(2-thienylacetyl)amino]-, 5-oxide, (5S,6R,7R)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C27 H19 Cl3 N2 O9 S2
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

Absolute stereochemistry.

Searched by: Mary Hale 571-272-2507 REM 1D86



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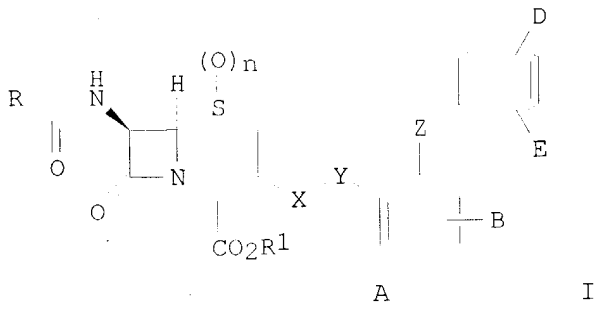

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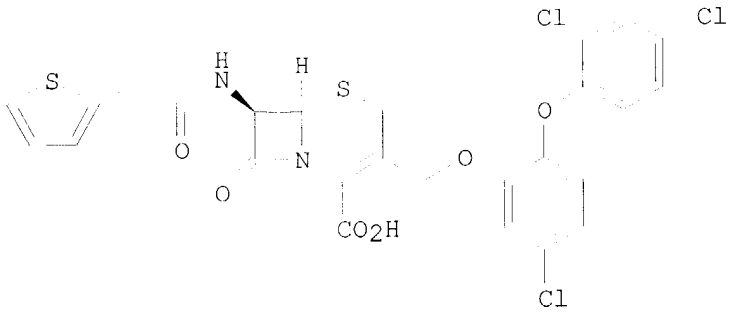

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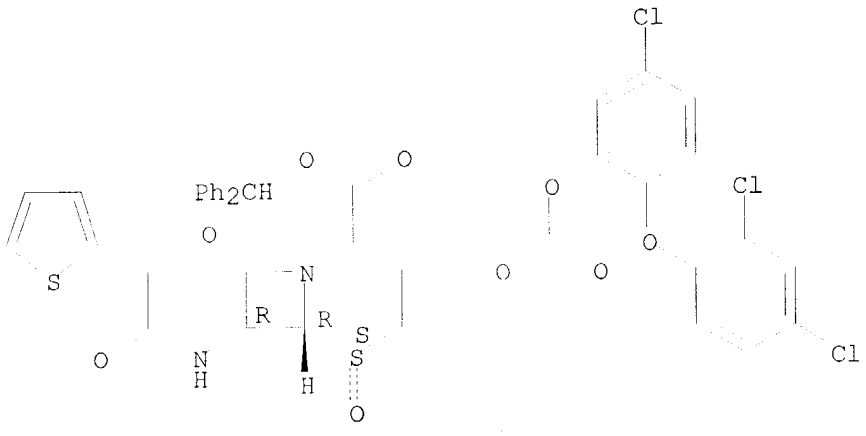
L3 ANSWER 21 OF 30 REGISTRY COPYRIGHT 2004 ACS on STN
RN 371915-02-5 REGISTRY
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[[[5-chloro-2-(2,4-dichlorophenoxy)phenoxy]carbonyl]oxy]methyl]-8-oxo-7-[(2-thienylacetyl)amino]-, diphenylmethyl ester, 5-oxide, (5S,6R,7R)-(9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C40 H29 Cl3 N2 O9 S2
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

Searched by: Mary Hale 571-272-2507 REM 1D86

Absolute stereochemistry.



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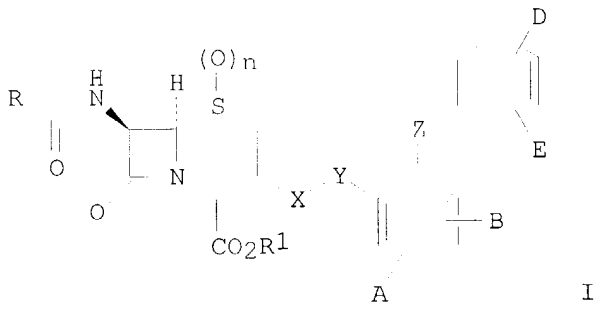
REFERENCE 1: 135:344322 Preparation of beta-lactams for inhibition of the growth of both antibiotic sensitive and antibiotic resistant microorganisms. Chan, Ming Fai; Castillo, Rosario S.; Li, Qing; Doppalapudi, Venkata Ramana; Hixon, Mark Stephen; Lobl, Thomas J. (Newbiotics, Inc., USA). PCT Int. Appl. WO 2001083492 A1 20011108, 109 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-US14133 20010501. PRIORITY: US 2000-PV201642 20000502.

GI

Searched by: Mary Hale 571-272-2507 REM 1D86



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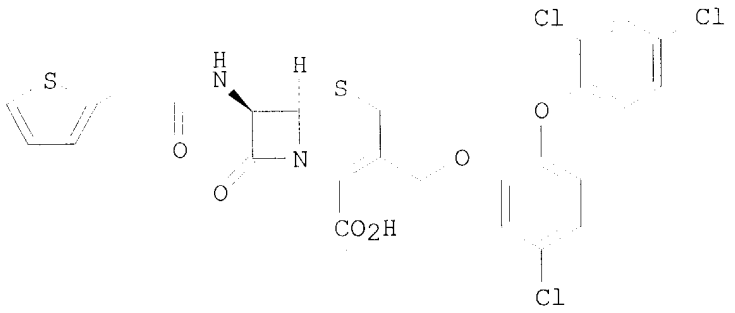


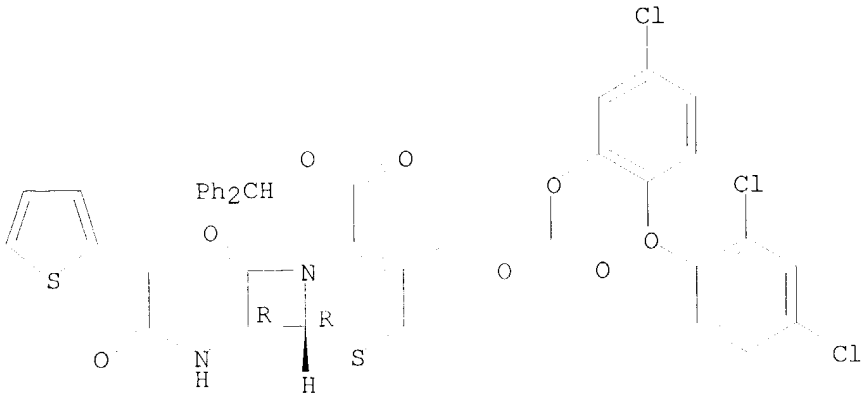
II

AB The present invention discloses the preparation of beta-lactams [I; n = 0-2; A, B, D, E = same or different = halogen, H, CN, NO2, CF3, C(O)H, NH2, N(R2)n, OR2 (R2 = H, alkyl, alkenyl, alkynyl); X = CH2, cis-CH=CHCH2, trans-CH=CHCH2, CH2OC(O), NHC(O)O, PO3, SO3, SO2, traceless linker; Y = O, S, NR3; R3 = H, alkyl, alkenyl, alkynyl; Z = O, CO, S, α-NR4CO-β, α-N(R4)CO-β, N(R4)n (R4 = H, alkyl, alkenyl, alkynyl); wherein ring α connects Y to Z; Z = benzene or a heterocycle; ring β connects to Z; R = Ph, PhCH2, PHOCH2, heterocycle, aryl, glycoside, etc; R1 = H, Li, Na, sugar, ammonium, NHMe, NMe2, alkylamine, polyethylene glycol], compns. and methods to inhibit the growth of both antibiotic sensitive and antibiotic resistant microorganisms. Thus, II was prepared via a multistep synthetic sequence starting from 7-aminocephalosporanic acid, thiophene acetyl chloride, diphenyldiazomethane and triclosan. The prepared beta-lactam derivs. were tested for bacterial growth inhibition properties [II showed IC50 = 42.4 nM vs E. coli N (β-lactam sensitive strain) and IC50 = 21.0 nM vs E. coli C(Tem31-27) (β-lactam resistant strain)].

L3 ANSWER 22 OF 30 REGISTRY COPYRIGHT 2004 ACS on STN
RN 371914-99-7 REGISTRY
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[[[5-chloro-2-(2,4-dichlorophenoxy)phenoxy]carbonyl]oxy]methyl]-8-oxo-7-[(2-thienylacetyl)amino]-, diphenylmethyl ester, (6R,7R)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C40 H29 Cl3 N2 O8 S2
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

Searched by: Mary Hale 571-272-2507 REM 1D86

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 135:344322 Preparation of beta-lactams for inhibition of the growth of both antibiotic sensitive and antibiotic resistant microorganisms. Chan, Ming Fai; Castillo, Rosario S.; Li, Qing; Doppalapudi, Venkata Ramana; Hixon, Mark Stephen; Lobl, Thomas J. (Newbiotics, Inc., USA). PCT Int. Appl. WO 2001083492 A1 20011108, 109 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-US14133 20010501. PRIORITY: US 2000-PV201642 20000502.

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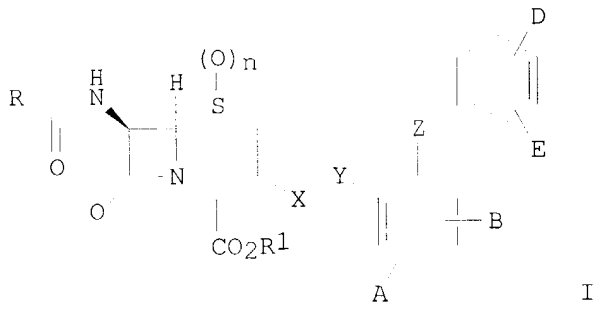
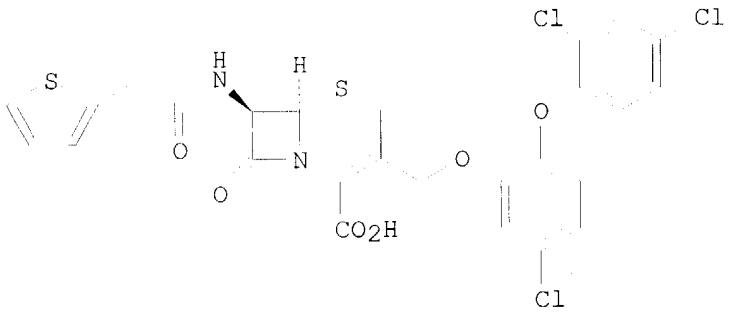
Searched by: Mary Hale 571-272-2507 REM 1D86



I



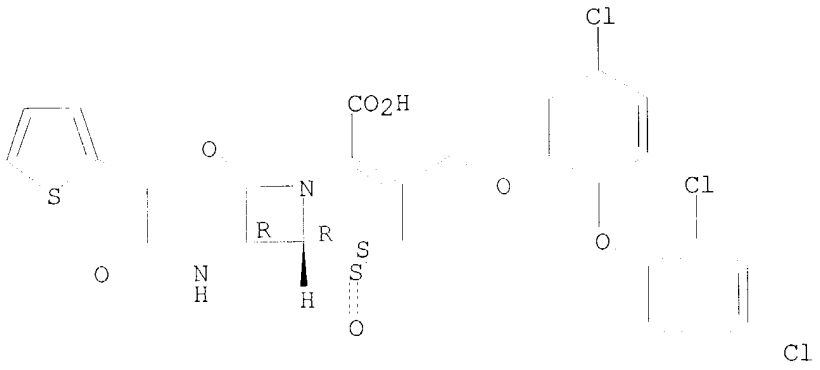
II

AB The present invention discloses the preparation of beta-lactams [I; n = 0-2; A, B, D, E = same or different = halogen, H, CN, NO2, CF3, C(O)H, NH2, N(R2)n, OR2 (R2 = H, alkyl, alkenyl, alkynyl); X = CH2, cis-CH=CHCH2, trans-CH=CHCH2, CH2OC(O), NHC(O)O, PO3, SO3, SO2, traceless linker; Y = O, S, NR3; R3 = H, alkyl, alkenyl, alkynyl; Z = O, CO, S, α-NR4CO-β, α-N(R4)CO-β, N(R4)n (R4 = H, alkyl, alkenyl, alkynyl); wherein ring α connects Y to Z; Z = benzene or a heterocycle; ring β connects to Z; R = Ph, PhCH2, PHOCH2, heterocycle, aryl, glycoside, etc; R1 = H, Li, Na, sugar, ammonium, NHMe, NMe2, alkylamine, polyethylene glycol], compns. and methods to inhibit the growth of both antibiotic sensitive and antibiotic resistant microorganisms. Thus, II was prepared via a multistep synthetic sequence starting from 7-aminocephalosporanic acid, thiophene acetyl chloride, diphenyldiazomethane and triclosan. The prepared beta-lactam derivs. were tested for bacterial growth inhibition properties [II showed IC50 = 42.4 nM vs E. coli N (β-lactam sensitive strain) and IC50 = 21.0 nM vs E. coli C(Tem31-27) (β-lactam resistant strain)].

L3 ANSWER 23 OF 30 REGISTRY COPYRIGHT 2004 ACS on STN
RN 371914-98-6 REGISTRY
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[5-chloro-2-(2,4-dichlorophenoxy)phenoxy]methyl]-8-oxo-7-[(2-thienylacetyl)amino]-, 5-oxide, (5S,6R,7R)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C26 H19 Cl3 N2 O7 S2
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

Absolute stereochemistry.

Searched by: Mary Hale 571-272-2507 REM 1D86



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 135:344322 Preparation of beta-lactams for inhibition of the growth of both antibiotic sensitive and antibiotic resistant microorganisms. Chan, Ming Fai; Castillo, Rosario S.; Li, Qing; Doppalapudi, Venkata Ramana; Hixon, Mark Stephen; Lobl, Thomas J. (Newbiotics, Inc., USA). PCT Int. Appl. WO 2001083492 A1 20011108, 109 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-US14133 20010501. PRIORITY: US 2000-PV201642 20000502.

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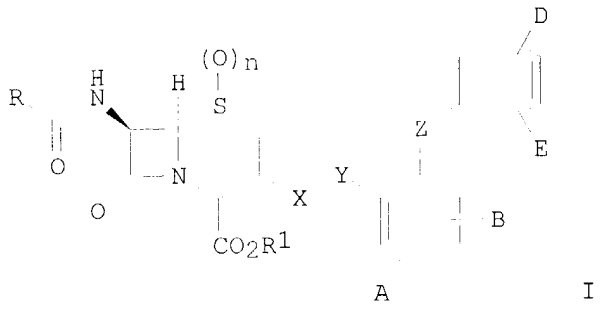
Searched by: Mary Hale 571-272-2507 REM 1D86



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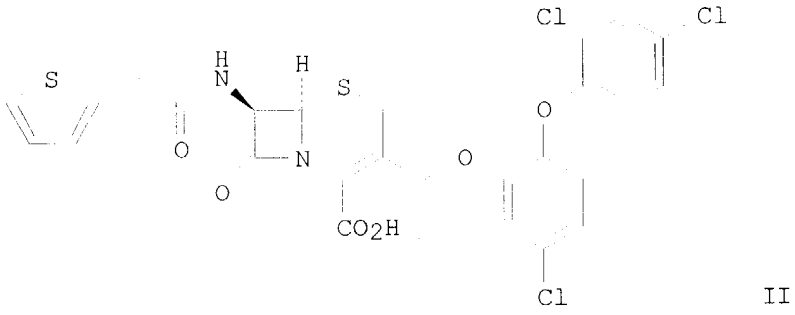


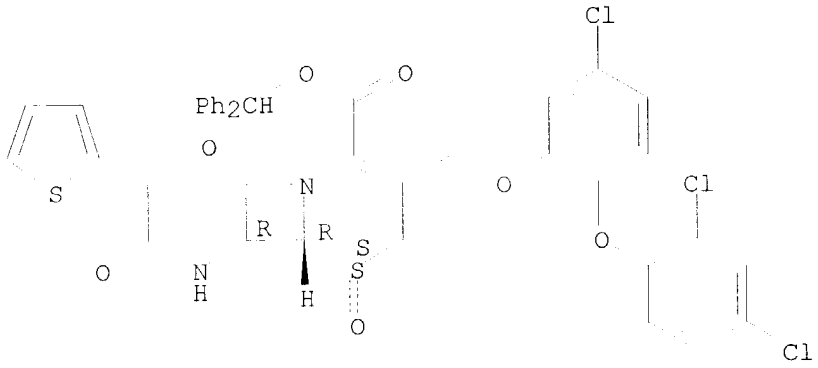
II

AB The present invention discloses the preparation of beta-lactams [I; n = 0-2; A, B, D, E = same or different = halogen, H, CN, NO2, CF3, C(O)H, NH2, N(R2)n, OR2 (R2 = H, alkyl, alkenyl, alkynyl); X = CH2, cis-CH=CHCH2, trans-CH=CHCH2, CH2OC(O), NHC(O)O, PO3, SO3, SO2, traceless linker; Y = O, S, NR3; R3 = H, alkyl, alkenyl, alkynyl; Z = O, CO, S, α-NR4CO-β, α-N(R4)CO-β, N(R4)n (R4 = H, alkyl, alkenyl, alkynyl); wherein ring α connects Y to Z; Z = benzene or a heterocycle; ring β connects to Z; R = Ph, PhCH2, PHOCH2, heterocycle, aryl, glycoside, etc; R1 = H, Li, Na, sugar, ammonium, NHMe, NMe2, alkylamine, polyethylene glycol], compns. and methods to inhibit the growth of both antibiotic sensitive and antibiotic resistant microorganisms. Thus, II was prepared via a multistep synthetic sequence starting from 7-aminocephalosporanic acid, thiophene acetyl chloride, diphenyldiazomethane and triclosan. The prepared beta-lactam derivs. were tested for bacterial growth inhibition properties [II showed IC50 = 42.4 nM vs E. coli N (β-lactam sensitive strain) and IC50 = 21.0 nM vs E. coli C(Tem31-27) (β-lactam resistant strain)].

L3 ANSWER 24 OF 30 REGISTRY COPYRIGHT 2004 ACS on STN
RN 371914-95-3 REGISTRY
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[5-chloro-2-(2,4-dichlorophenoxy)phenoxy]methyl]-8-oxo-7-[(2-thienylacetyl)amino]-, diphenylmethyl ester, 5-oxide, (5S,6R,7R)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C39 H29 Cl3 N2 O7 S2
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

Searched by: Mary Hale 571-272-2507 REM 1D86

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 135:344322 Preparation of beta-lactams for inhibition of the growth of both antibiotic sensitive and antibiotic resistant microorganisms. Chan, Ming Fai; Castillo, Rosario S.; Li, Qing; Doppalapudi, Venkata Ramana; Hixon, Mark Stephen; Lobl, Thomas J. (Newbiotics, Inc., USA). PCT Int. Appl. WO 2001083492 A1 20011108, 109 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-US14133 20010501. PRIORITY: US 2000-PV201642 20000502.

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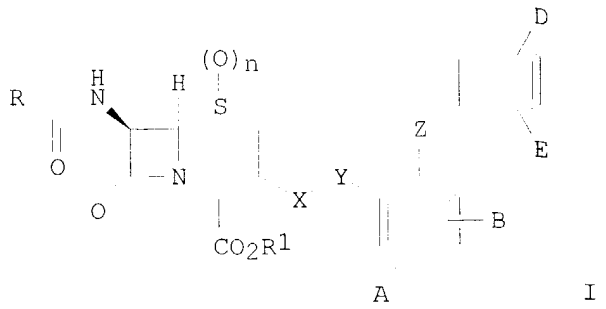
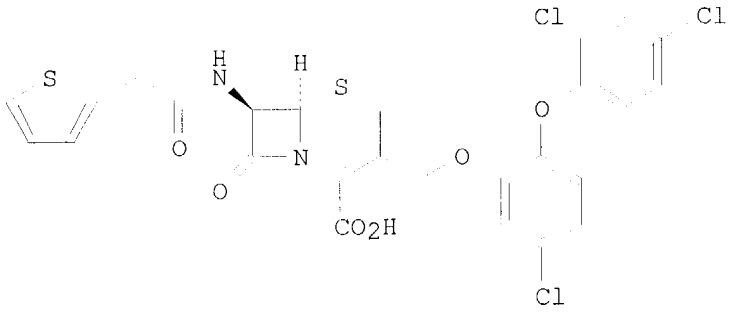
Searched by: Mary Hale 571-272-2507 REM 1D86



A I



II

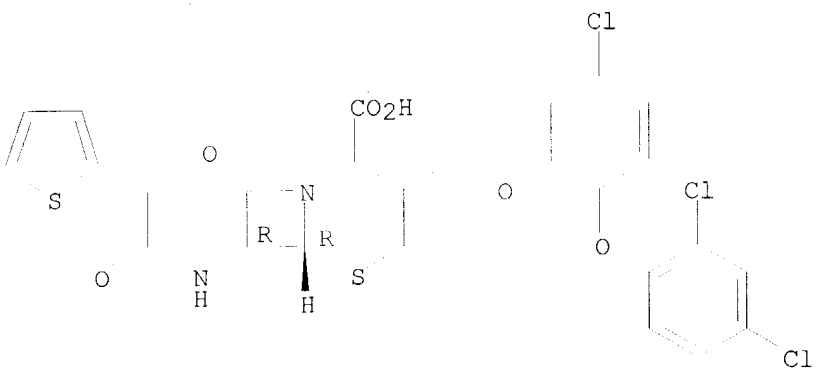
AB The present invention discloses the preparation of beta-lactams [I; n = 0-2; A, B, D, E = same or different = halogen, H, CN, NO2, CF3, C(O)H, NH2, N(R2)n, OR2 (R2 = H, alkyl, alkenyl, alkynyl); X = CH2, cis-CH=CHCH2, trans-CH=CHCH2, CH2OC(O), NHC(O)O, PO3, SO3, SO2, traceless linker; Y = O, S, NR3; R3 = H, alkyl, alkenyl, alkynyl; Z = O, CO, S, α-NR4CO-β, α-N(R4)CO-β, N(R4)n (R4 = H, alkyl, alkenyl, alkynyl); wherein ring α connects Y to Z; Z = benzene or a heterocycle; ring β connects to Z; R = Ph, PhCH2, PHOCH2, heterocycle, aryl, glycoside, etc; R1 = H, Li, Na, sugar, ammonium, NHMe, NMe2, alkylamine, polyethylene glycol], compns. and methods to inhibit the growth of both antibiotic sensitive and antibiotic resistant microorganisms. Thus, II was prepared via a multistep synthetic sequence starting from 7-aminocephalosporanic acid, thiophene acetyl chloride, diphenyldiazomethane and triclosan. The prepared beta-lactam derivs. were tested for bacterial growth inhibition properties [II showed IC50 = 42.4 nM vs E. coli N (β-lactam sensitive strain) and IC50 = 21.0 nM vs E. coli C(Tem31-27) (β-lactam resistant strain)].

L3 ANSWER 25 OF 30 REGISTRY COPYRIGHT 2004 ACS on STN
RN 371914-92-0 REGISTRY
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[5-chloro-2-(2,4-dichlorophenoxy)phenoxy]methyl]-8-oxo-7-[(2-thienylacetyl)amino]-, (6R,7R)- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN NB 2001
FS STEREOSEARCH
MF C26 H19 Cl3 N2 O6 S2
SR CA
LC STN Files: BIOSIS, CA, CAPLUS, PROUSDDR, SYNTHLINE, USPATFULL
DT.CA CAplus document type: Journal; Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

Searched by: Mary Hale 571-272-2507 REM 1D86

RL.NP Roles from non-patents: BIOL (Biological study); PREP (Preparation); PRP (Properties); USES (Uses)

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2 REFERENCES IN FILE CA (1907 TO DATE)
3 REFERENCES IN FILE CAPLUS (1907 TO DATE)

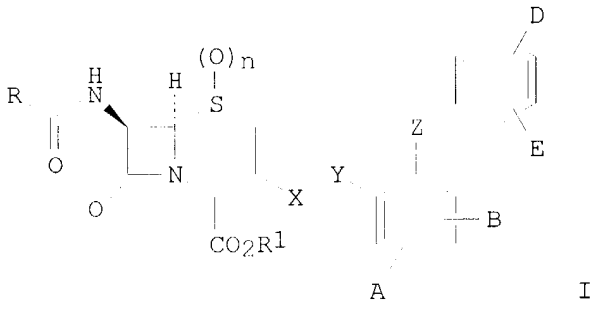
REFERENCE 1: 137:60121 NB2001, a novel antibacterial agent with broad-spectrum activity and enhanced potency against β-Lactamase-producing strains. Li, Qing; Lee, Jean Y.; Castillo, Rosario; Hixon, Mark S.; Pujol, Catherine; Doppalapudi, Venkata Ramana; Shepard, H. Michael; Wahl, Geoffrey M.; Lobl, Thomas J.; Chan, Ming Fai (NewBiotics, Inc., San Diego, CA, 92121, USA). Antimicrobial Agents and Chemotherapy, 46(5), 1262-1268 (English) 2002. CODEN: AMACCQ. ISSN: 0066-4804. Publisher: American Society for Microbiology.

AB Enzyme-catalyzed therapeutic activation (ECTA) is a novel prodrug strategy to overcome drug resistance resulting from enzyme overexpression. β-Lactamase overexpression is a common mechanism of bacterial resistance to β-lactam antibiotics. We present here the results for one of the β-lactamase ECTA compds., NB2001, which consists of the antibacterial agent triclosan in a prodrug form with a cephalosporin scaffold. Unlike conventional β-lactam antibiotics, where hydrolysis of the β-lactam ring inactivates the antibiotic, hydrolysis of NB2001 by β-lactamase releases triclosan. Evidence supporting the proposed mechanism is as follows. (i) NB2001 is a substrate for TEM-1 β-lactamase, forming triclosan with a second-order rate constant (kcat/Km) of greater than 77,000 M-1 s-1. (ii) Triclosan is detected in NB2001-treated, β-lactamase-producing Escherichia coli but not in E. coli that does not express β-lactamase. (iii) NB2001 activity against β-lactamase-producing E. coli is decreased in the presence of the β-lactamase inhibitor clavulanic acid. NB2001 was similar to or more potent than reference antibiotics against clin. isolates of Staphylococcus aureus (including MRSA), Staphylococcus epidermidis, Streptococcus pneumoniae, vancomycin-resistant Enterococcus faecalis, Moraxella catarrhalis and Haemophilus influenzae. NB2001 is also active against Klebsiella pneumoniae, Enterobacter aerogenes, and Enterobacter cloacae. The results indicate that NB2001 is a potent, broad-spectrum antibacterial agent and demonstrate the potential of ECTA in overcoming β-lactamase-mediated resistance.

REFERENCE 2: 135:344322 Preparation of beta-lactams for inhibition of the

growth of both antibiotic sensitive and antibiotic resistant microorganisms. Chan, Ming Fai; Castillo, Rosario S.; Li, Qing; Doppalapudi, Venkata Ramana; Hixon, Mark Stephen; Lobl, Thomas J. (Newbiotics, Inc., USA). PCT Int. Appl. WO 2001083492 A1 20011108, 109 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-US14133 20010501. PRIORITY: US 2000-PV201642 20000502.

GI



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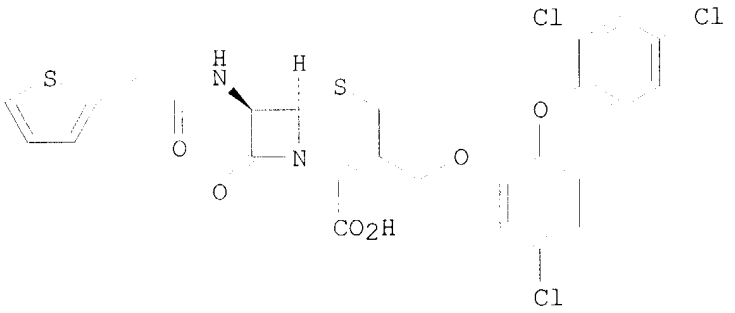

II

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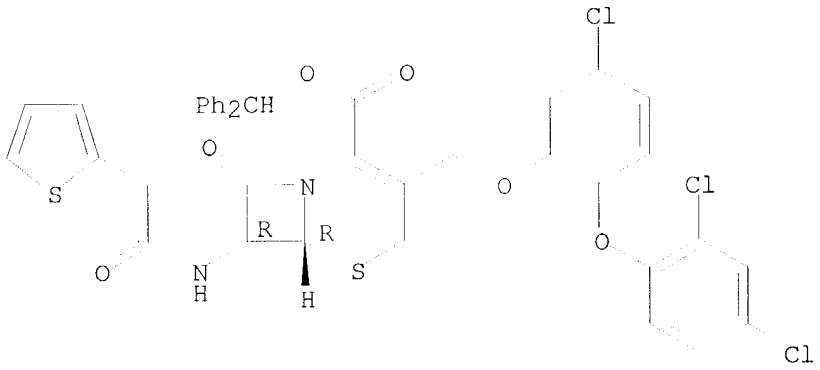
Searched by: Mary Hale 571-272-2507 REM 1D86

nM vs E. coli N (β-lactam sensitive strain) and IC50 = 21.0 nM vs E. coli C(Tem31-27) (β-lactam resistant strain)].

L3 ANSWER 26 OF 30 REGISTRY COPYRIGHT 2004 ACS on STN
RN 371914-89-5 REGISTRY
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[5-chloro-2-(2,4-dichlorophenoxy)phenoxy]methyl]-8-oxo-7-[(2-thienylacetyl)amino]-, diphenylmethyl ester, (6R,7R)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C39 H29 Cl3 N2 O6 S2
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
DT.CA CAplus document type: Journal; Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
RL.NP Roles from non-patents: PREP (Preparation); RACT (Reactant or reagent)

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 137:60121 NB2001, a novel antibacterial agent with broad-spectrum activity and enhanced potency against β-Lactamase-producing strains. Li, Qing; Lee, Jean Y.; Castillo, Rosario; Hixon, Mark S.; Pujol, Catherine; Doppalapudi, Venkata Ramana; Shepard, H. Michael; Wahl, Geoffrey M.; Lobl, Thomas J.; Chan, Ming Fai (NewBiotics, Inc., San Diego, CA, 92121, USA). Antimicrobial Agents and Chemotherapy, 46(5), 1262-1268 (English) 2002. CODEN: AMACCQ. ISSN: 0066-4804. Publisher: American Society for Microbiology.
AB Enzyme-catalyzed therapeutic activation (ECTA) is a novel prodrug strategy to overcome drug resistance resulting from enzyme overexpression. β-Lactamase overexpression is a common mechanism of bacterial resistance to β-lactam antibiotics. We present here the results for one of the β-lactamase ECTA compds., NB2001, which consists of the antibacterial agent triclosan in a prodrug form with a cephalosporin scaffold. Unlike conventional β-lactam antibiotics, where hydrolysis of the β-lactam ring inactivates the antibiotic, hydrolysis of NB2001 by β-lactamase releases triclosan. Evidence supporting the proposed mechanism is as follows. (i) NB2001 is a substrate for TEM-1 β-lactamase, forming triclosan with a second-order rate constant (kcat/Km) of greater than 77,000 M-1 s-1. (ii) Triclosan is detected in NB2001-treated, β-lactamase-producing Escherichia coli but not in E.

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coli that does not express β-lactamase. (iii) NB2001 activity against β-lactamase-producing E. coli is decreased in the presence of the β-lactamase inhibitor clavulanic acid. NB2001 was similar to or more potent than reference antibiotics against clin. isolates of Staphylococcus aureus (including MRSA), Staphylococcus epidermidis, Streptococcus pneumoniae, vancomycin-resistant Enterococcus faecalis, Moraxella catarrhalis and Haemophilus influenzae. NB2001 is also active against Klebsiella pneumoniae, Enterobacter aerogenes, and Enterobacter cloacae. The results indicate that NB2001 is a potent, broad-spectrum antibacterial agent and demonstrate the potential of ECTA in overcoming β-lactamase-mediated resistance.

REFERENCE 2: 135:344322 Preparation of beta-lactams for inhibition of the growth of both antibiotic sensitive and antibiotic resistant microorganisms. Chan, Ming Fai; Castillo, Rosario S.; Li, Qing; Doppalapudi, Venkata Ramana; Hixon, Mark Stephen; Lobl, Thomas J. (Newbiotics, Inc., USA). PCT Int. Appl. WO 2001083492 A1 20011108, 109 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-US14133 20010501. PRIORITY: US 2000-PV201642 20000502.

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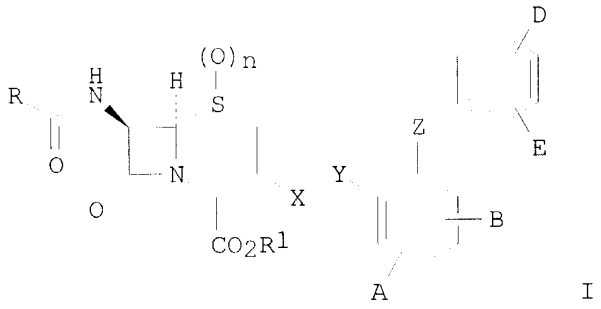
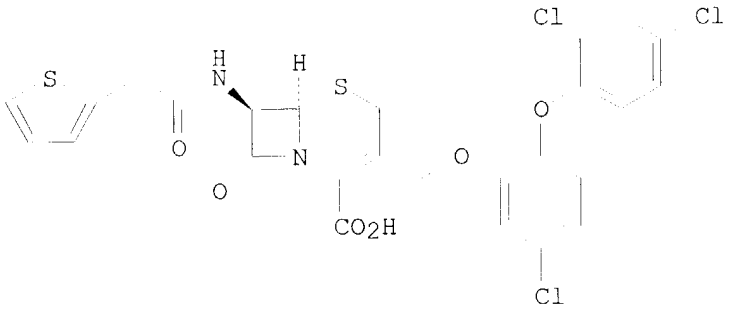


I



II

AB The present invention discloses the preparation of beta-lactams [I; n = 0-2; A, B, D, E = same or different = halogen, H, CN, NO2, CF3, C(O)H, NH2,

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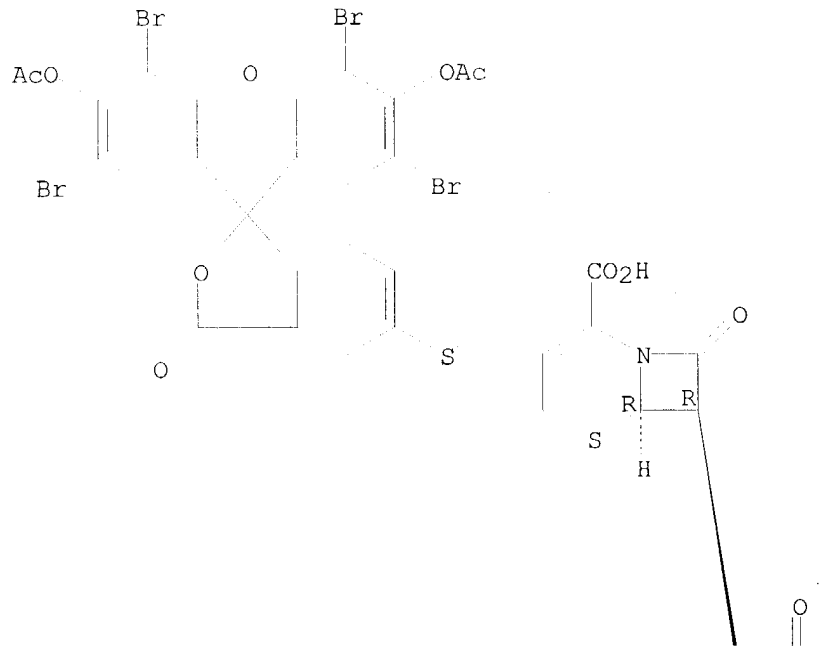
N(R2)n, OR2 (R2 = H, alkyl, alkenyl, alkynyl); X = CH2, cis-CH=CHCH2, trans-CH=CHCH2, CH2OC(O), NHC(O)O, PO3, SO3, SO2, traceless linker; Y = O, S, NR3; R3 = H, alkyl, alkenyl, alkynyl; Z = O, CO, S, α-NR4CO-β, α-N(R4)CO-β, N(R4)n (R4 = H, alkyl, alkenyl, alkynyl); wherein ring α connects Y to Z; Z = benzene or a heterocycle; ring β connects to Z; R = Ph, PhCH2, PHOCH2, heterocycle, aryl, glycoside, etc; R1 = H, Li, Na, sugar, ammonium, NHMe, NMe2, alkylamine, polyethylene glycol], compns. and methods to inhibit the growth of both antibiotic sensitive and antibiotic resistant microorganisms. Thus, II was prepared via a multistep synthetic sequence starting from 7-aminocephalosporanic acid, thiophene acetyl chloride, diphenyldiazomethane and triclosan. The prepared beta-lactam derivs. were tested for bacterial growth inhibition properties [II showed IC50 = 42.4 nM vs E. coli N (β-lactam sensitive strain) and IC50 = 21.0 nM vs E. coli C(Tem31-27) (β-lactam resistant strain)].

L3 ANSWER 27 OF 30 REGISTRY COPYRIGHT 2004 ACS on STN
RN 361146-58-9 REGISTRY
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[[3',6'-bis(acetyloxy)-3-oxospiro[isobenzofuran-1(3H),9'-[9H]xanthen]-5-yl]thio]acetyl]amino]-3-[[[3',6'-bis(acetyloxy)-2',4',5',7'-tetrabromo-3-oxospiro[isobenzofuran-1(3H),9'-[9H]xanthen]-5-yl]thio]methyl]-8-oxo-, (6R,7R)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C58 H36 Br4 N2 O18 S3
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)

Absolute stereochemistry.

PAGE 1-A



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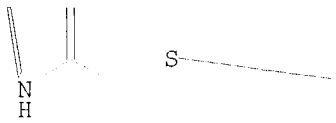
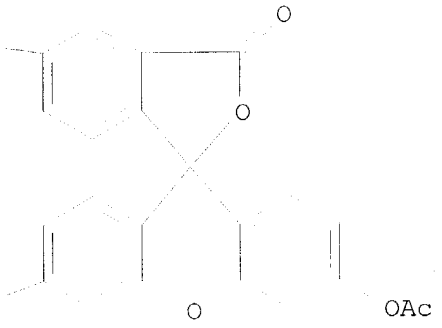


PAGE 2-B



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 135:253737 Cytosolic forms of β-lactamase and fluorescent substrates useful for monitoring gene expression. Tsien, Roger Y.; Zlokarnik, Gregor (The Regents of the University of California, USA). U.S. US 6291162 B1 20010918, 66 pp., Cont.-in-part of U.S. 5,741,657. (English). CODEN: USXXAM. APPLICATION: US 1996-727616 19961015. PRIORITY: US 1995-407544 19950320; WO 1996-US4059 19960320.

AB The present invention is directed to nucleic acid mols. that encode a cytosolic form of β-lactamase and cells that include such nucleic acid mols. The β-lactamase variants comprise Escherichia coli β-lactamase RTEM with replacement of the signal sequence by either Met-Gly or Met-Asp, or Bacillus licheniformis β-lactamase with the signal sequence replaced by Met. Mammalian Kozak sequences are inserted into the plasmid vectors for improved expression of the β-lactamase variants in mammalian cells. Membrane-permeable substrates are synthesized comprising a cephalosporin backbone serving as a cleavable linker between two fluorescent dyes. Fluorescence resonance energy transfer occurs from a 7-hydroxycoumarin moiety to a fluorescein moiety leading to green fluorescence when the compds. are excited at about 400 nm. After cleavage of the β-lactam ring, excitation of the 7-hydroxycoumarin moiety results in blue fluorescence; a 25-fold increase fluorescence at about 450 nm, and a 3-4-fold decrease in fluorescence at 515 nm, was observed The substrates make it feasible to use β-lactamase

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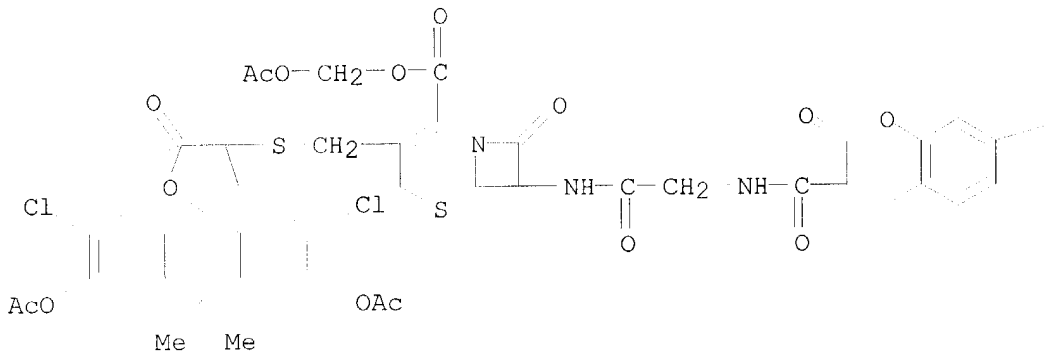
as a reporter gene to monitor expression from a set of expression control sequences in transfected cells. Thus, measurement of activation of an intracellular glucocorticoid receptor was measured by its ability to upregulate the transcriptional activity of the glucocorticoid responsive element in the mouse mammary tumor virus promoter. This response to steroids was detected as increased intracellular β-lactamase activity on the substrate, causing an appropriate change in fluorescent signal.

L3 ANSWER 28 OF 30 REGISTRY COPYRIGHT 2004 ACS on STN
RN 183736-86-9 REGISTRY
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[[[7-(acetyloxy)-2-oxo-2H-1-benzopyran-3-yl]carbonyl]amino]acetyl]amino]-3-[[[3,6-bis(acetyloxy)-2,7-dichloro-4',5'-dihydro-10,10-dimethyl-5'-oxospiro[anthracene-9(10H),2'(3'H)-furan]-4'-yl]thio]methyl]-8-oxo-, (acetyloxy)methyl ester (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C48 H41 Cl2 N3 O17 S2
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study); PROC (Process); PRP (Properties); USES (Uses)

PAGE 1-A



PAGE 1-B

OAc

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 131:225488 Fluorogenic β-lactam preparation and β-lactamase reporter gene assay for animal cell transcription, transfection, or antibiotic resistance. Tsien, Roger Y.; Zlokarnik, Gregor (The Regents of the University of California, USA). U.S. US 5955604 A 19990921, 58 pp., Cont. of U. S. Ser. No. 727,616. (English). CODEN: USXXAM. APPLICATION: US 1997-955401 19971021. PRIORITY: US 1996-727616 19961015; US 1996-732178 19961016.

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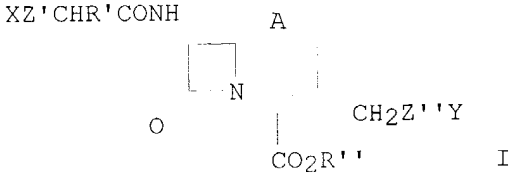

I

AB Substrates for β-lactamase are provided of the general formula I in which one of X and Y is a fluorescent donor moiety and the other is a quencher (which may or may not re-emit); R' is selected from the group consisting of H, lower (i.e., alkyl of 1 to about 5 carbon atoms) and (CH2)nOH, in which n is 0 or an integer from 1 to 5; R" is selected from the group consisting of H, physiol. acceptable metal and ammonium cations, -CHR2OCO(CH2)nCH3, -CHR2OCOC(CH3)3, acylthiomethyl, acyloxy-α-benzyl, δ-butyrolactonyl, methoxycarbonyloxymethyl, Ph, methylsulfinylmethyl, β-morpholinoethyl, dialkylaminoethyl, acyloxyalkyl, dialkylaminocarbonyloxymethyl and aliphatic, in which R2 is selected from the group consisting of H and lower alkyl; A is selected from the group consisting of S, O, SO, SO2 and CH2 ; and Z' and Z" are linkers for the fluorescent donor and quencher moieties. Methods of assaying β-lactamase activity and monitoring expression in systems using β-lactamase as a reporter gene also are disclosed. Examples include Drosophila or zebrafish embryo transformation assays as well as animal cell glucocorticoid receptor-mediated or β-adrenergic receptor-mediated transcription assays.

REFERENCE 2: 126:3785 Fluorogenic β-lactam preparation and β-lactamase reporter gene assay for animal cell transcription, transfection, or antibiotic resistance. Tsien, Roger Y.; Zlokarnik, Gregor (University of California, USA). PCT Int. Appl. WO 9630540 A2 19961003, 118 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION: WO 1996-US4059 19960320. PRIORITY: US 1995-407544 19950320.

AB Fluorogenic β-lactam substrates are useful for detecting expression of the reporter gene, β-lactamase gene. Synthetic β-lactamase substrates with a fluorescent donor moiety in addition to a quencher moiety (which may or may not re-emit) are prepared and characterized. Synthetic substrates may include groups which are alkyl of 1 to about 5 carbon atoms or (CH2)nOH, in which n is 0 or an integer from 1 to 5. Synthetic substrates also may include physiol. acceptable metal and ammonium cations, -CHR2OCO(CH2)nCH3, -CHR2OCOC(CH3)3, acylthiomethyl, acyloxy-α-benzyl, δ-butyrolactonyl, methoxycarbonyloxymethyl, Ph, methylsulphinylmethyl, β-morpholinoethyl, dialkylaminoethyl, acyloxyalkyl, and dialkylaminocarbonyloxymethyl groups. S, O, SO, SO2 and CH2 as well as linkers for the fluorescent donor and quencher moieties are also included in synthetic β-lactamase substrates. Methods of assaying β-lactamase activity and monitoring expression in systems using β-lactamase as a reporter gene also are disclosed. Examples include Drosophila or zebrafish embryo transformation assays as well as animal cell glucocorticoid receptor-mediated or β-adrenergic receptor-mediated transcription assays.

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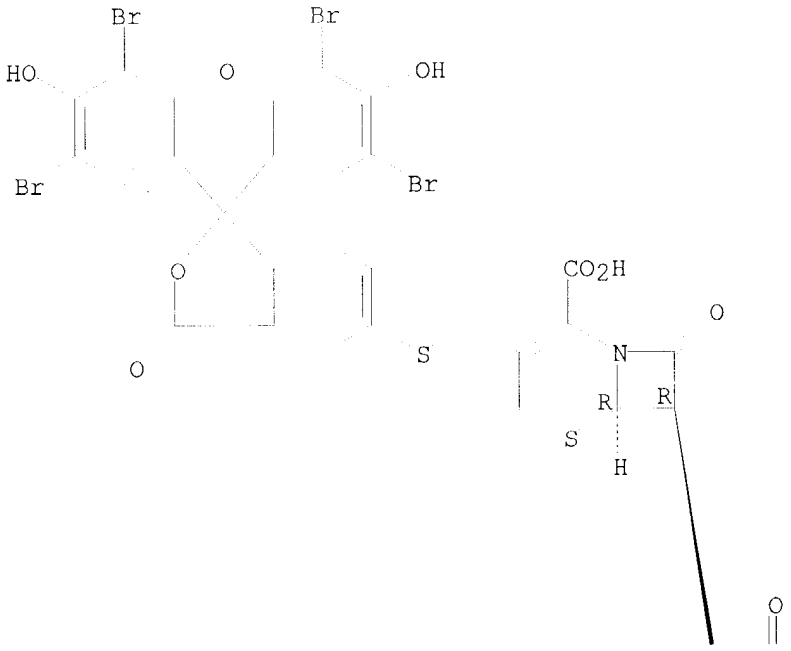
L3 ANSWER 29 OF 30 REGISTRY COPYRIGHT 2004 ACS on STN
RN 183736-55-2 REGISTRY
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[(3',6'-dihydroxy-3-oxospiro[isobenzofuran-1(3H),9'-[9H]xanthen]-5-yl)thio]acetyl]amino]-8-oxo-3-[[(2',4',5',7'-tetrabromo-3',6'-dihydroxy-3-oxospiro[isobenzofuran-1(3H),9'-[9H]xanthen]-5-yl)thio]methyl]-, (6R,7R)-(9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[(3',6'-dihydroxy-3-oxospiro[isobenzofuran-1(3H),9'-[9H]xanthen]-5-yl)thio]acetyl]amino]-8-oxo-3-[[(2',4',5',7'-tetrabromo-3',6'-dihydroxy-3-oxospiro[isobenzofuran-1(3H),9'-[9H]xanthen]-5-yl)thio]methyl]-, (6R-trans)-
FS STEREOSEARCH
MF C50 H28 Br4 N2 O14 S3
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PRP (Properties); RACT (Reactant or reagent); USES (Uses)

Absolute stereochemistry.

PAGE 1-A



Searched by: Mary Hale 571-272-2507 REM 1D86

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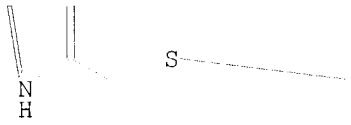

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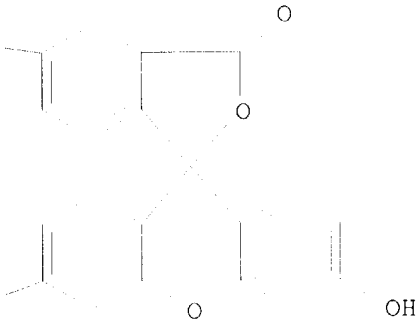
PAGE 2-B



2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 131:225488 Fluorogenic β-lactam preparation and β-lactamase reporter gene assay for animal cell transcription, transfection, or antibiotic resistance. Tsien, Roger Y.; Zlokarnik, Gregor (The Regents of the University of California, USA). U.S. US 5955604 A 19990921, 58 pp., Cont. of U. S. Ser. No. 727,616. (English). CODEN: USXXAM. APPLICATION: US 1997-955401 19971021. PRIORITY: US 1996-727616 19961015; US 1996-732178 19961016.

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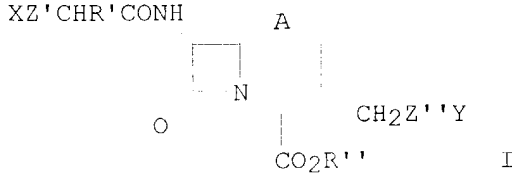

I

AB Substrates for β-lactamase are provided of the general formula I in which one of X and Y is a fluorescent donor moiety and the other is a

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quencher (which may or may not re-emit); R' is selected from the group consisting of H, lower (i.e., alkyl of 1 to about 5 carbon atoms) and (CH2)nOH, in which n is 0 or an integer from 1 to 5; R" is selected from the group consisting of H, physiol. acceptable metal and ammonium cations, -CHR2OCO(CH2)nCH3, -CHR2OCOC(CH3)3, acylthiomethyl, acyloxy-α-benzyl, δ-butyrolactonyl, methoxycarbonyloxymethyl, Ph, methylsulfinylmethyl, β-morpholinoethyl, dialkylaminoethyl, acyloxyalkyl, dialkylaminocarbonyloxymethyl and aliphatic, in which R2 is selected from the group consisting of H and lower alkyl; A is selected from the group consisting of S, O, SO, SO2 and CH2 ; and Z' and Z" are linkers for the fluorescent donor and quencher moieties. Methods of assaying β-lactamase activity and monitoring expression in systems using β-lactamase as a reporter gene also are disclosed. Examples include Drosophila or zebrafish embryo transformation assays as well as animal cell glucocorticoid receptor-mediated or β-adrenergic receptor-mediated transcription assays.

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AB Fluorogenic β-lactam substrates are useful for detecting expression of the reporter gene, β-lactamase gene. Synthetic β-lactamase substrates with a fluorescent donor moiety in addition to a quencher moiety (which may or may not re-emit) are prepared and characterized. Synthetic substrates may include groups which are alkyl of 1 to about 5 carbon atoms or (CH2)nOH, in which n is 0 or an integer from 1 to 5. Synthetic substrates also may include physiol. acceptable metal and ammonium cations, -CHR2OCO(CH2)nCH3, -CHR2OCOC(CH3)3, acylthiomethyl, acyloxy-α-benzyl, δ-butyrolactonyl, methoxycarbonyloxymethyl, Ph, methylsulphinylmethyl, β-morpholinoethyl, dialkylaminoethyl, acyloxyalkyl, and dialkylaminocarbonyloxymethyl groups. S, O, SO, SO2 and CH2 as well as linkers for the fluorescent donor and quencher moieties are also included in synthetic β-lactamase substrates. Methods of assaying β-lactamase activity and monitoring expression in systems using β-lactamase as a reporter gene also are disclosed. Examples include Drosophila or zebrafish embryo transformation assays as well as animal cell glucocorticoid receptor-mediated or β-adrenergic receptor-mediated transcription assays.

L3 ANSWER 30 OF 30 REGISTRY COPYRIGHT 2004 ACS on STN
RN 171799-32-9 REGISTRY
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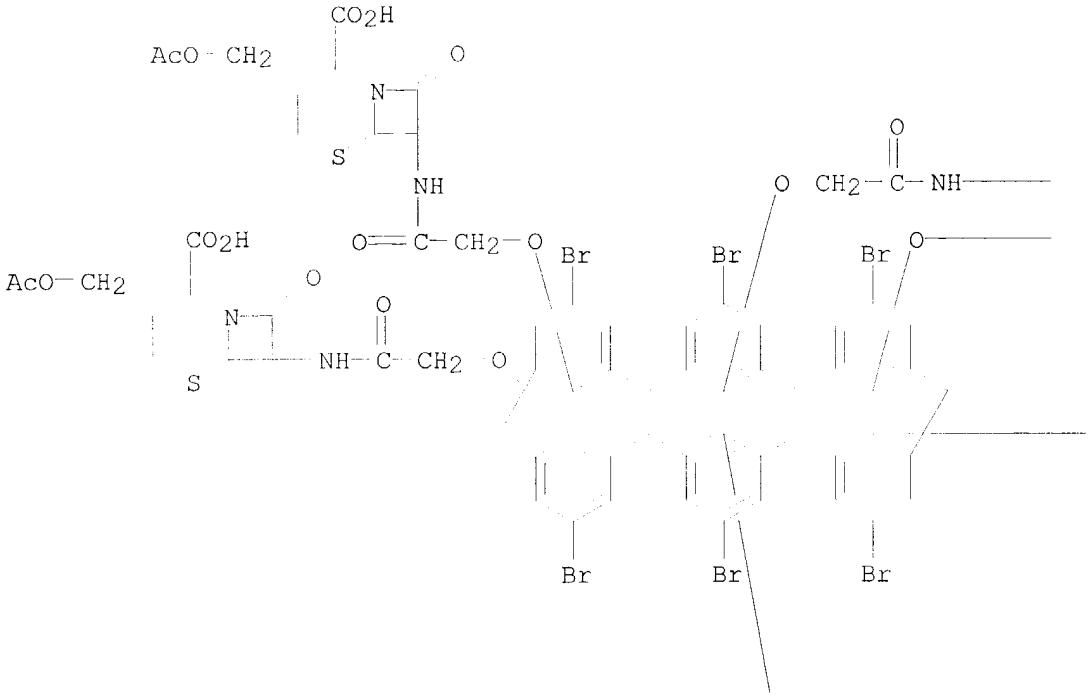
MF C114 H102 Br6 N12 O42 S6
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

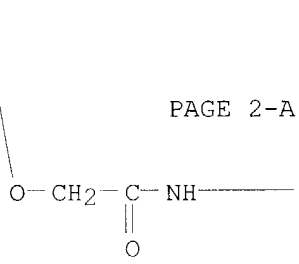
Searched by: Mary Hale 571-272-2507 REM 1D86

PAGE 1-A



* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

PAGE 2-A



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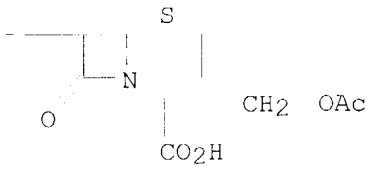

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 124:55584 Preparation of calixarene-based compounds having

Searched by: Mary Hale 571-272-2507 REM 1D86

antibacterial, antifungal, anticancer, and anti-HIV activity. Harris, Stephen J. (Ire.). PCT Int. Appl. WO 9519974 A2 19950727, 148 pp. DESIGNATED STATES: W: AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, FI, GB, HU, JP, KP, LU, NO, RO, UA, US; RW: AT, BE, CH, DE, ES, FR, GA, GB, GR, IE, LU, ML, NE, NL, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1995-IE8 19950124. PRIORITY: IE 1994-57 19940124.

GI For diagram(s), see printed CA Issue.

AB Calixarene-based compds., which are calixarenes or oxacalixarenes, acyclic phenyl-formaldehyde oligomers, cyclotriveratrylene derivs., cyclic tetrameric resorcinol-aldehyde derivs. known as Hogberg compds. and cyclic tetrameric pyrogallol-aldehyde derivs., are prepared For example, calixarenes or oxacalixarenes are represented by general formula [I; n + m = 3-8; m = 0-3; n = 0-8; R1 = H, halo, hydrocarbyl, aryl, (un)substituted hydrocarbylaryl, NO2, SO3M1; wherein M1 = alkali metal, SO3H; R1 = OR2; wherein R2 = CH2CO2R3, CH2CO2Mp/p, CH2CONR4R5; wherein R3 = (un)substituted alkyl; M = metal, ammonium ion; p = the charge on the metal ion; R4 or R5 may be the same or different, or both may be part of amino acid ester of poly(amino acid ester) or one or more of the same or different amino acids or part of a cyclic polyene antibiotic/antifungal drug or part of a cyclic nitrogen heterocycle; X = halo, NO2, CO2H, cyano, other electron withdrawing group]. Thus, n-butyraldehyde and pyrogallol in a 1:4 mixture of 37% aqueous HCl and EtOH was refluxed under N for 90 min to give a cyclic tetramer (II; R = X = H), which was brominated with Br in CHCl3 to II (R = H, X = Br) and etherified with Et bromoacetate in the presence of K2CO3 in refluxing acetone to give II (R = CH2CO2Et, X = Br). The latter compound was saponified with KOH in refluxing EtOH , acidified with aqueous HCl, and treated with 25% aqueous NH4OH to give II (R = CH2CO2-NH4+, X = Br). The latter compound in vitro inhibited the infection of C8166 cells with HIV-2, SIV (Simian immunodeficiency virus), and HIV-1 with EC50 of 10, 20, and 0.03 μM.

=> fil caold;s l3

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	288.91	2271.51

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-19.80	-93.89

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L4 0 L3

=> fil hcapl;s l3

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.42	2271.93

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
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L5 7 L3

=> fil reg

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	2.36	2274.29

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-93.89

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